

Service Manual

and Technical Guide

Telephone Equipment

KX-T9310DM

(for Denmark)



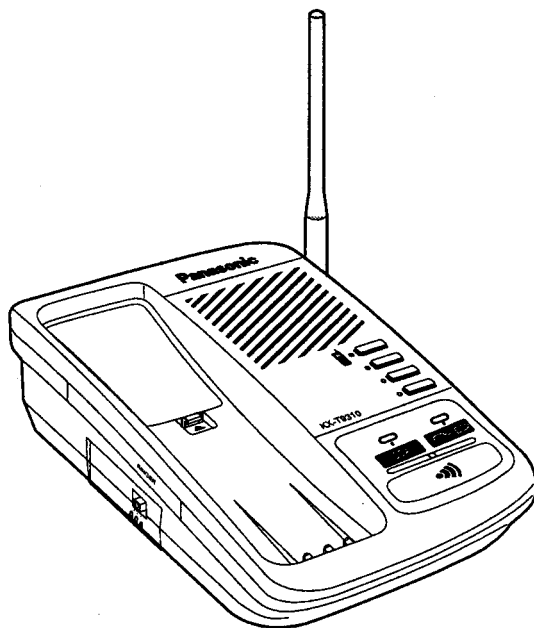
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WIRELESS PHONE

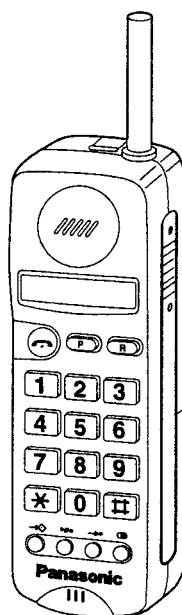
Please use this manual with the original Service Manual for model KX-T9300DM order No. KM49602026C2.
This Service Manual indicates the main differences between: Original KX-T9300DM and KX-T9310DM.

⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.



(KX-T9310DMH)



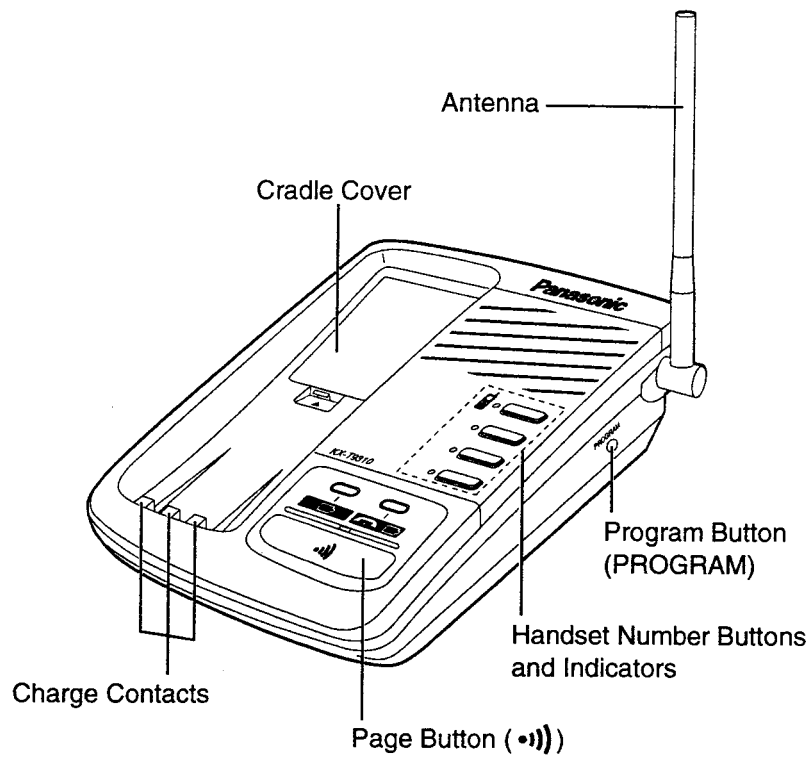
(KX-T9310DMR)

Panasonic

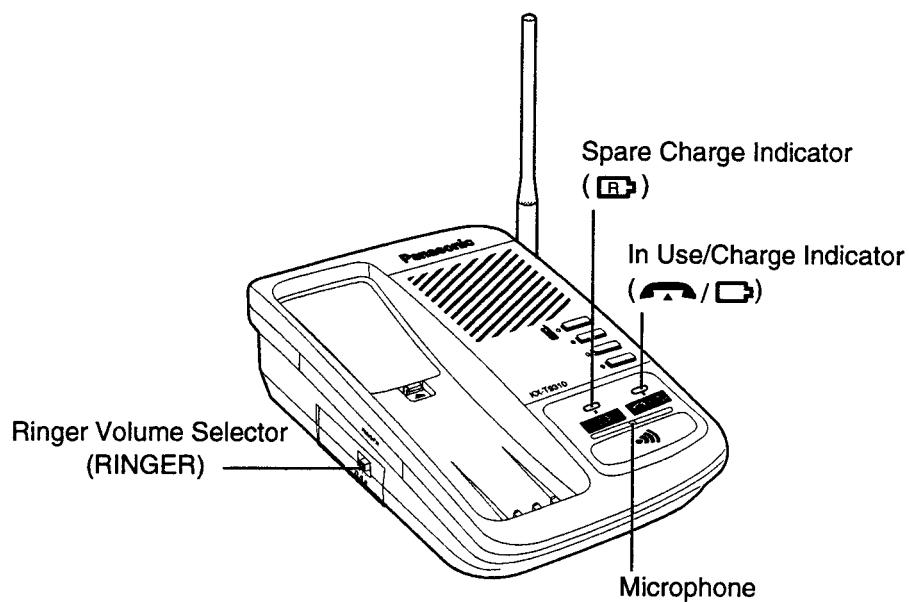
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■ **LOCATION OF CONTROLS (Change from original page 3)**

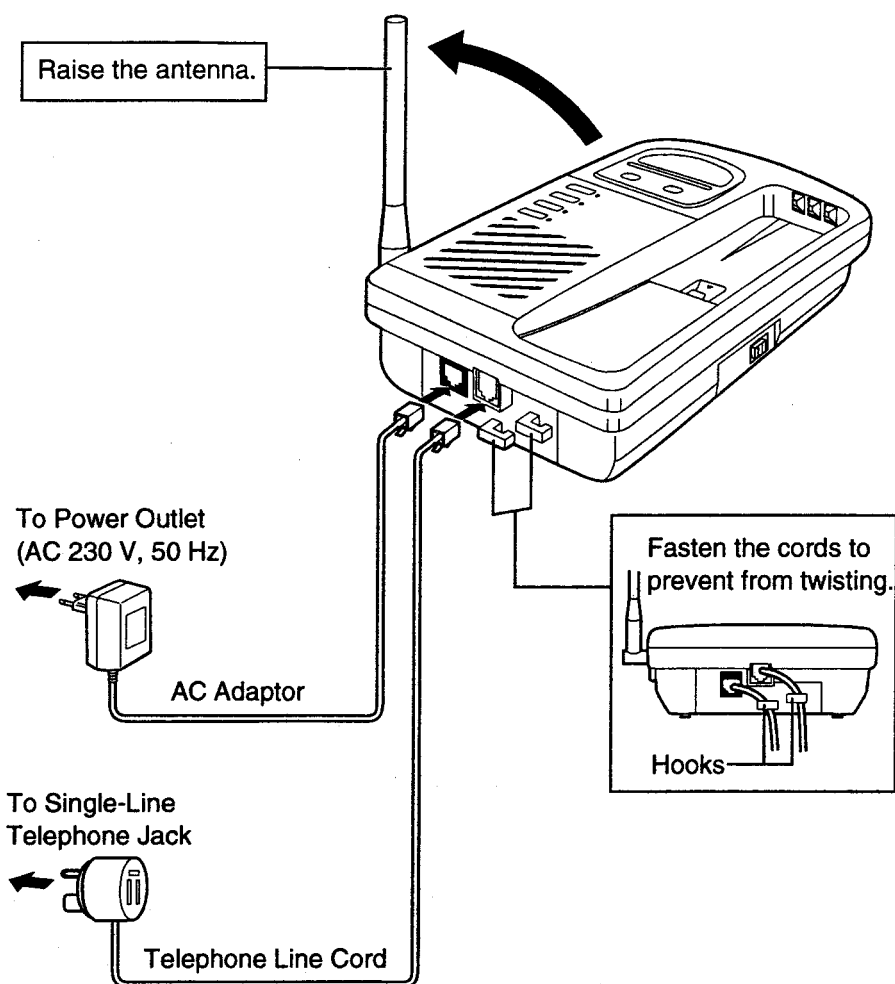


(Model KX-T9310DM)



(Model KX-T9310DM)

■ CONNECTION (Change from original page 5)



(Model KX-T9310DM)

■ ADJUSTMENTS (KX-T9310DMR) (Change from original page 16)

After servicing the RF unit, never make adjustments without assembling the upper RF unit cover and the lower RF unit cover with solder.

Adjustment Preparations

1. Connect the main P.C. Board to RF unit by the extension cord.
2. Connect a distortion meter (with AC voltmeter) to the SPK terminals (TP5) on the portable handset.
3. Connect 3.9 V to the battery terminals.
4. After pressing [1], [9], [X] keys at the same time, turn Power SW on. After that, press [P] key (Test mode on standby).
5. Press [M] key (Test Mode on CH1 Talk).

Note: When selecting optional channel, press [2] [3] keys after pressing [P] key of adjustment preparation 4 item (ex. CH23).
Next press [M] key (Test Mode on CH23 Talk)

If your unit have below symptom, adjust for each item as table of adjustment on pages 16 and 17.

Symptom	Remedy
Dose not link between base unit and portable handset.	Adjust the adjustment items (A), (B), (C), (F) and (G).
Speaker level of portable handset is unstable.	Adjust the adjustment item (D).
Transmission sound for receiver is unstable.	Adjust the adjustment item (E).
The operating distance between base unit and portable handset is loss than normal.	Adjust the adjustment items (H).

Item	Adjustment Item	Procedure
(A)	RX VCO Voltage Check	Place the voltmeter probe at TP2. Confirm that TP2 's voltage is within 0.5 V~2.5 V.
(B)	TX VCO Voltage Check	Place the voltmeter probe at TP3. Confirm that TP3 's voltage is within 0.5 V~2.5 V.
(C)	20 dB Electric Field Adjustment	While reduced level of S.S.G. set S.S.G. level when distortion of telephone line sending signal is 30 %. Confirm the level is less than 5 dB μ Vemf. If so, adjust VR1 so that brightness is equivalent whichever TP20 dB High and Low.
(D)	Receiving Level Adjustment	Connect a signal generator (959.0125 MHz, 1 kHz modulation frequency, 3 kHz modulation, +60 dB μ Vemf output level) to the RF unit TPA. Adjust VR3 so that the speaker output TP5 is -18.0 dBm \pm 0.5 dB (85 mV \pm 1.7 mV).
(E)	Modulation Sensitivity Adjustment	Connect a modulation meter and signal generator [959.0125 MHz, 60 dB μ Vemf (1 mV, -53 dBm), unmodulation] in TPA and GND. Connect an AF oscillator [f=1 kHz, -36 dBm (12 mV) level] to the MIC terminals (TP4) and V _{ss} on the portable handset. Adjust VR4 to set the modulation to 3.1 \pm 0.2 kHz Devi.
(F)	Standard Frequency Adjustment	Adjust VC201 so that transmission ferquency is set 914.0125 MHz \pm 0.5kHz(CH1). Connect frequency counter between TPA and GND.
(G)	12.8 MHz Transmitter Confirmation	Connect the frequency counter between the TP1 and GND and confirm that the frequency is 12.8 MHz and that Vp-p is approximately 900 mV.
(H)	TX Power Confirmarion	Connect the Spectrum analyzer the TPA and GND and confirm that the level is +7 dBm \pm 3 dB (10 mW~2.5 mW) Typ 5.0 mV.

Adjustment items (G) and (H): Refer to page 59.

Note: When selecting optional channel, press [2] [3] keys after pressing Flash key of adjustment preparation 4 item (ex. CH23). Next press Talk key (Test mode on CH23 Talk).

■ INFORMATION (Change from original page 18)

Symptom: When redial operation or auto dial operation are slow.

Cancellation of the dial tone detect

- 1) Press Program button "→◇".
- 2) Press **[4]** key.
- 3) Press **[#]** key.
Then portable handset's LCD indicates "1" or "2".
"1" is normal.
"2" is wrong.
- 4) When "2" is indicated, remedy according to 5), 6).
- 5) Press **[1]** key.
- 6) Press Program button "→◇".
Then unit will be cancelled the dial tone detect.

■ ID CODE SETTING (Change from original page 19)

How to set base unit and portable handset to test mode

PORTABLE HANDSET

- 1) While pressing the Dial button **[1]** and **[9]** and **[*]** at same time, turn the Power switch "ON".
- 2) Press Page button "P" once on the Portable Handset.
The Portable Handset becomes Test Standby mode.

BASE UNIT

- 3) While pressing SW1 (refer to page 15), connect power supply to AC adaptor. "Pi" alarm sounds.
- 4) Press Page button "•••)" once on the Base Unit.
The Base Unit becomes Test Standby mode.

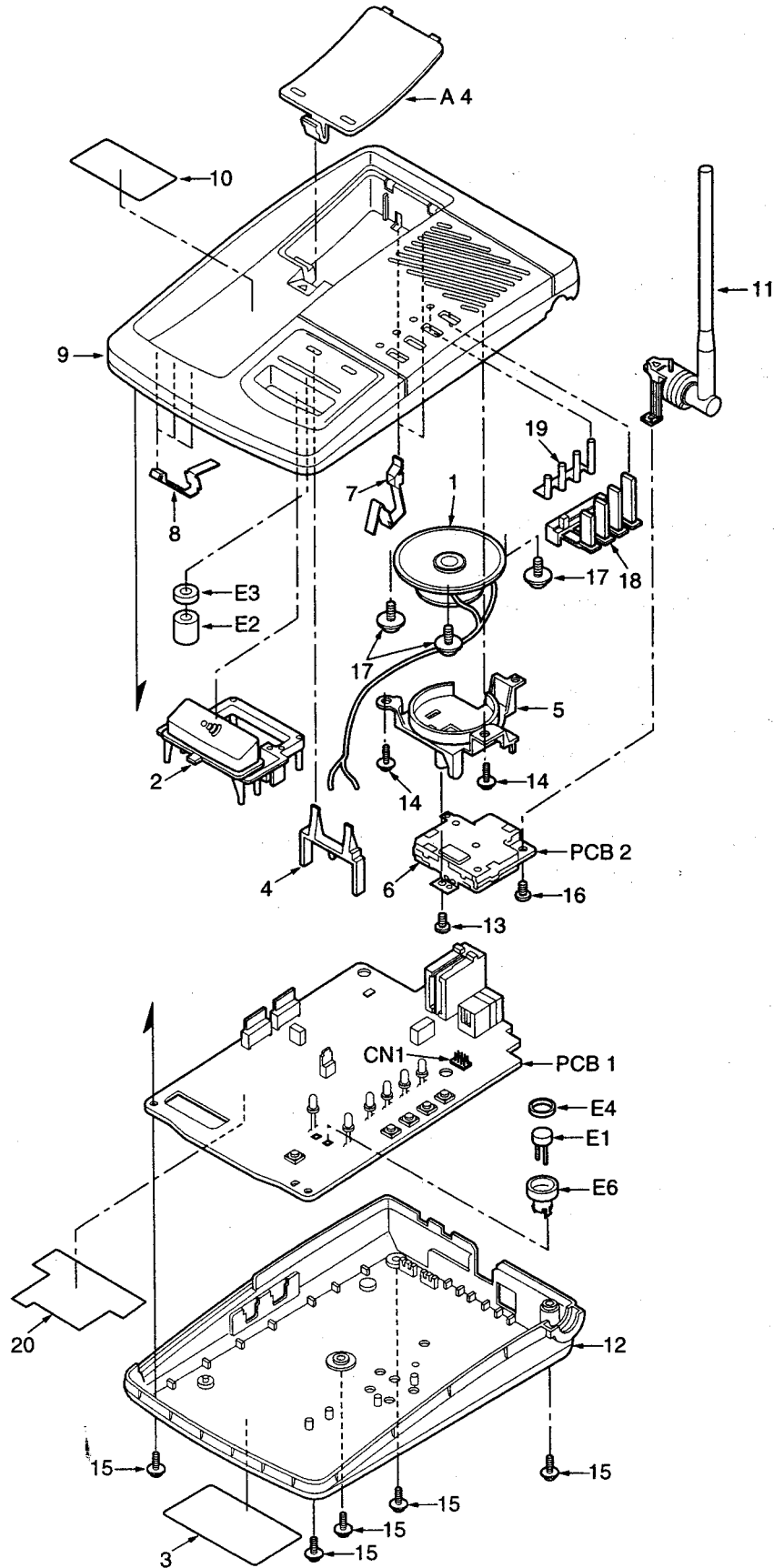
PORTABLE HANDSET

- 5) Press Program button "→◇".
- 6) Press Page button "P".
- 7) Enter ID code (7 digits).
Example: If you enter "000010" ID code, push **[0]**, **[0]**, **[0]**, **[0]**, **[0]**, **[1]**, **[0]** keys.
- 8) Press Page button "P".
- 9) Press **[1]** key.
- 10) Press Page button "P". "Pi" alarm sounds.
- 11) Press **[0]** and **[4]** keys (It is country code for Sweden).
- 12) Press Page button "P".
- 13) If your unit is model No. KX-T9310DM, press **[5]** and **[0]** and **[1]** keys (It is KX-T9310DM model code of Portable Handset).
- 14) Press Page button "P".
Portable Handset will make linkage to Base Unit.
"Pi..." alarm sounds.
- 15) Press Page button "P".
- 16) If your unit is model No. KX-T9310DM, press **[5]** and **[0]** and **[1]** keys (It is KX-T9310DM model code of Base Unit).
- 17) Press Program button "→◇".
- 18) Turn the Power switch to "OFF" to end the setting.

BASE UNIT

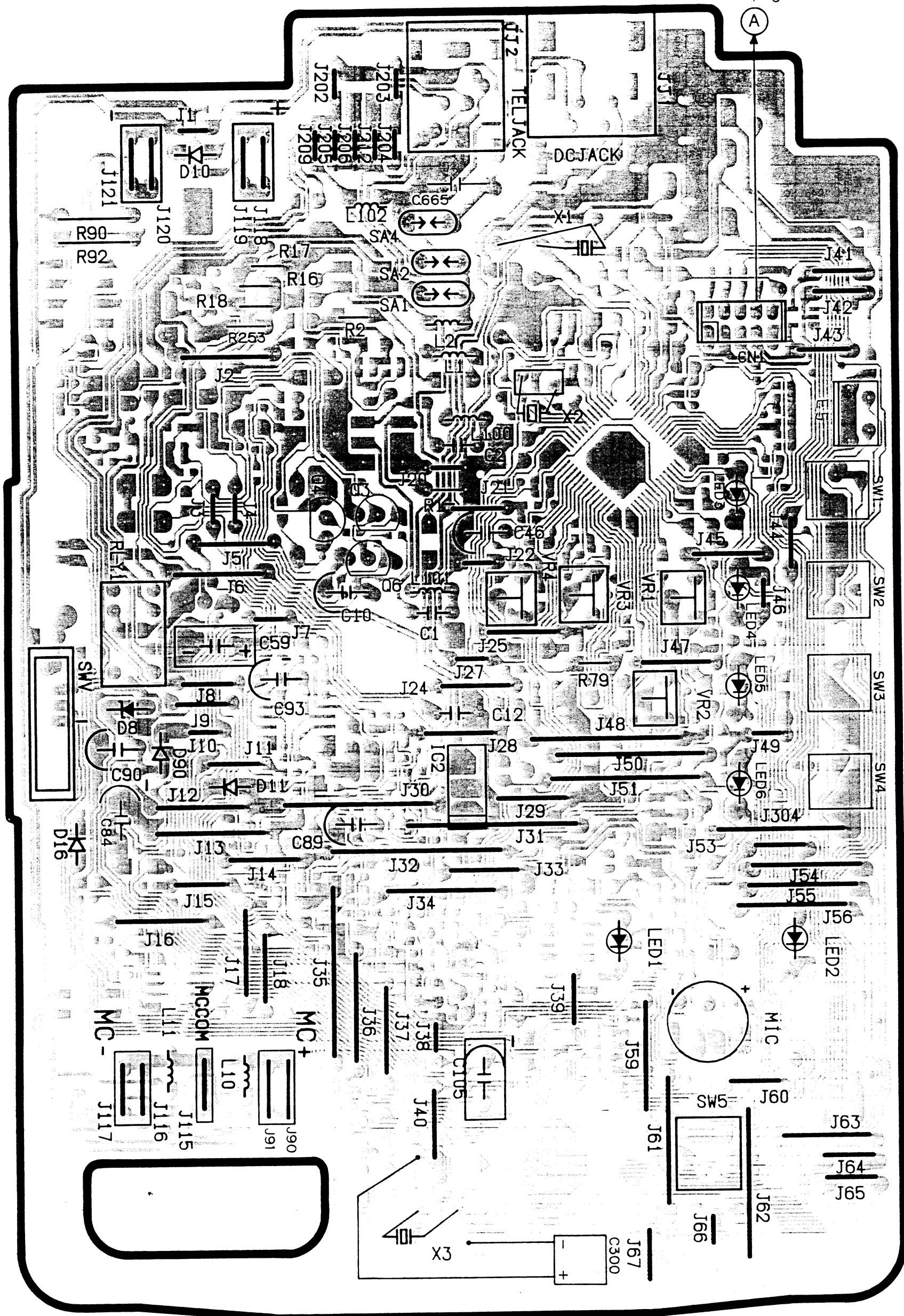
- 19) Press SW1 (refer to page 15) button to end the setting.

■ CABINET AND ELECTRICAL PARTS LOCATION (KX-T9310DMH) (Change from original page 60)

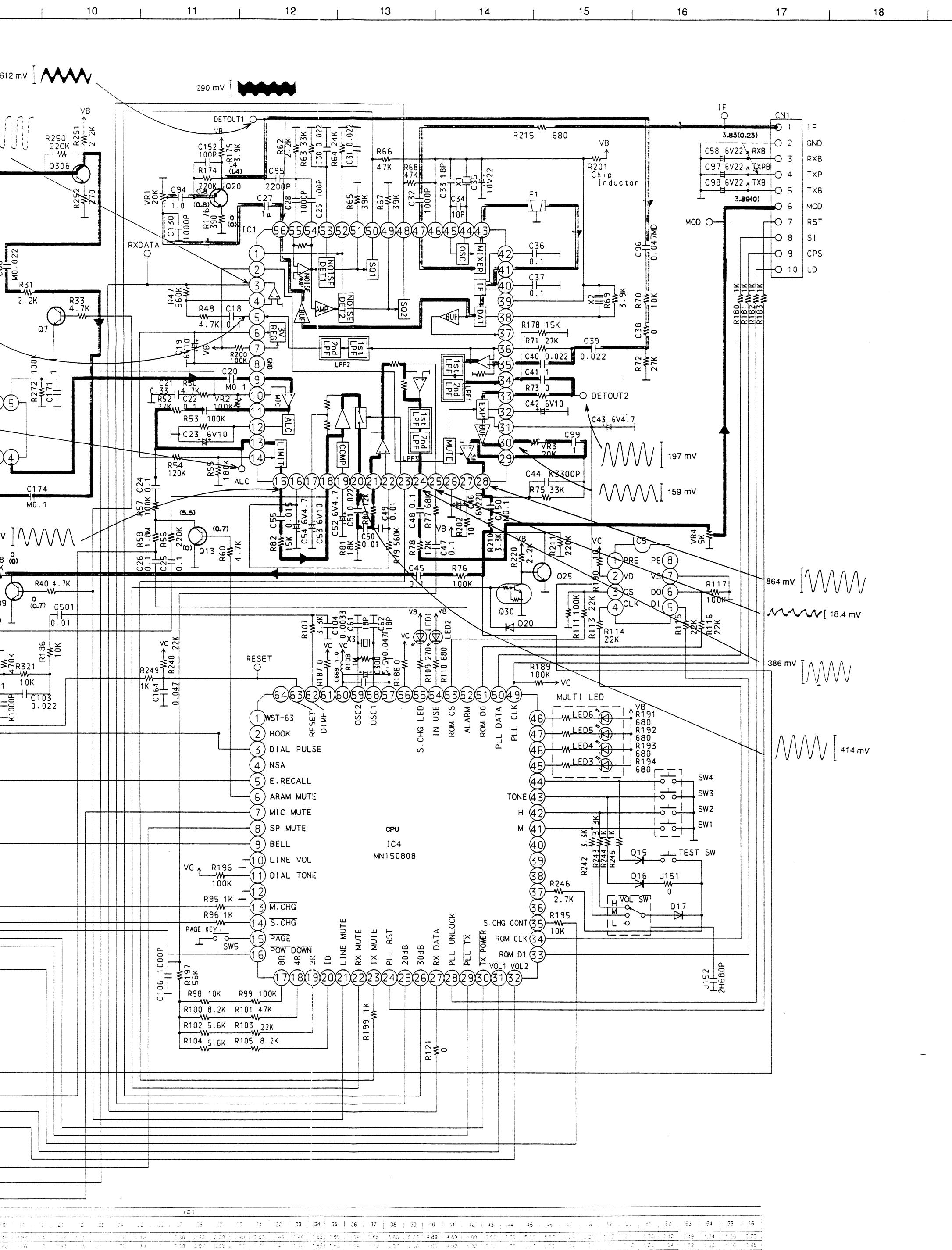


(Component View)

Refer to page 20.



IC DIAGRAM (KX-T9310DMH)



This replacement parts list is Denmark version only. Refer to the simplified manual (cover) for other areas.

Ref. No.	Part No.	Part Name & Description	Pcs/Set	Ref. No.	Part No.	Value	Pcs/Set
L100	PQLQZM8R2K	COIL	1	R10	Not Used		
L101	PQLQZM8R2K	COIL	1	R11	Not Used		
L102	PQLQZM8R2K	COIL	1	R12	ERJ3GEYJ104	100K	1
R201	PQLQR1KT	COIL	1	R13	ERJ3GEYJ472	4.7K	1
		(SWITCHES)		R14	ERJ3GEYJ473	47K	1
SWV	PQSS3A17W	SWITCH, RINGER VOLUME	1	R15	PQ4R10XJ104	100K	1
SW1	EVQQJJ05Q	SWITCH, HANDSET NUMBER	1	R16	ERDS2TJ471	470	1
SW2	EVQQJJ05Q	SWITCH, HANDSET NUMBER	1	R17	ERDS2TJ821	820	1
SW3	EVQQJJ05Q	SWITCH, HANDSET NUMBER	1	R18	Not Used		
SW4	EVQQJJ05Q	SWITCH, HANDSET NUMBER	1	R19	Not Used		
SW5	EVQQJJ05Q	SWITCH, PAGE	1	R20	Not Used		
		(VARIABLE RESISTORS)		R21	ERJ3GEYJ153	15K	1
VR1	EVNDXAA03B24	VARIABLE RESISTOR	1	R22	ERJ3GEYJ392	3.9K	1
VR2	EVNDXAA03B15	VARIABLE RESISTOR	1	R23	ERJ3GEYJ103	10K	1
VR3	EVNDXAA03B24	VARIABLE RESISTOR	1	R24	ERJ14YJ470	47	1
VR4	EVNDXAA03B53	VARIABLE RESISTOR	1	R25	Not Used		
		(VARISTORS)		R26	Not Used		
SA1	PQVDDSS301L	VARISTOR	1	R27	ERJ3GEYJ223	22K	1
SA2	PQVDDSS301L	VARISTOR	1	R28	ERJ3GEYJ472	4.7K	1
SA4	PQVDDSA302MU	VARISTOR	1	R29	ERJ3GEYJ393	39K	1
		(PHOTO COUPLERS)		R30	ERJ3GEYJ562	5.6K	1
PC1	PQVIP27011M3	PHOTO ELECTRIC TRANSDUCER	1	R31	PQ4R10XJ222	2.2K	1
PC3	PQVIP27011M3	PHOTO ELECTRIC TRANSDUCER	1	R32	Not Used		
PC4	PQVIP27021L3	PHOTO ELECTRIC TRANSDUCER	1	R33	ERJ3GEYJ472	4.7K	1
		(JACKS)		R34	ERJ3GEYJ102	1K	1
JJ1	PQJJ1T013Y	JACK, DC	1	R35	ERJ3GEYJ224	220K	1
JJ2	PQJJ1TC2Y	JACK, TEL	1	R36	Not Used		
		(CRYSTAL OSCILLATORS)		R37	ERJ3GEYJ334	330K	1
X1	PQVCJ2094N4R	CRYSTAL OSCILLATOR	1	R38	ERJ3GEYJ153	15K	1
X2	PQVFCDBM455M	CRYSTAL OSCILLATOR	1	R39	Not Used		
X3	PQVCJ3581N9Z	CRYSTAL OSCILLATOR	1	R40	ERJ3GEYJ472	4.7K	1
		(OTHERS)		R41	ERJ3GEYJ473	47K	1
CN1	PQJP10B01Z	CONNECTOR	1	R42	PQ4R10XJ103	10K	1
RLY1	PQSL134Z	RELAY	1	R43-46	Not Used		
E1	PQJM120Z	MIC	1	R47	ERJ3GEYJ564	560K	1
E2	PQHR10434Z	MIC SPACER	1	R48	ERJ3GEYJ472	4.7K	1
E3	PQHX10563Z	MIC NET	1	R49	ERJ3GEYJ105	1M	1
E4	PQHX10564Z	MIC SPONGE	1	R50	ERJ3GEYJ472	4.7K	1
E5	EVQKQH06K	SWITCH, PROGRAM	1	R51	ERJ3GEYJ105	1M	1
E6	PQHR10317Z	MIC HOLDER	1	R52	ERJ3GEYJ273	27K	1
		(RESISTORS)		R53	ERJ3GEYJ104	100K	1
R1	PQRD1VJ154	150K	1	R54	ERJ3GEYJ124	120K	1
R2	ERDS2TJ824	820K	1	R55	ERJ3GEYJ184	180K	1
R3	Not Used			R56	ERJ3GEYJ224	220K	1
R4	ERJ3GEYJ104	100K	1	R57	ERJ3GEYJ104	100K	1
R5	ERJ3GEYJ153	15K	1	R58	ERJ3GEYJ185	1.8M	1
R6	PQ4R10XJ473	47K	1	R59	Not Used		
R7-9	Not Used			R60	ERJ3GEYJ472	4.7K	1
				R61	Not Used		
				R62	ERJ3GEYJ222	2.2K	1
				R63	ERJ3GEYJ333	33K	1
				R64	ERJ3GEYJ243	24K	1
				R65	ERJ3GEYJ393	39K	1
				R66	ERJ3GEYJ473	47K	1
				R67	ERJ3GEYJ393	39K	1
				R68	ERJ3GEYJ473	47K	1
				R69	ERJ3GEYJ392	3.9K	1
				R70	ERJ3GEYJ103	10K	1
				R71	ERJ3GEYJ273	27K	1
				R72	ERJ3GEYJ273	27K	1
				R73	ERJ3GEY0R00	0	1
				R74	Not Used		
				R75	ERJ3GEYJ333	33K	1
				R76	ERJ3GEYJ104	100K	1
				R77	ERJ3GEYJ683	68K	1

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REPLACEMENT PARTS LIST

Model KX-T9310DMH

1. RTL (Retention Time Limited)

Note: The marking (RTL) indicates that the Retention Time is limited for this item.

After the discontinuation of this assembly in production, the item will continue to be available for a specific period of time. The retention period of availability depends on the type of assembly and the laws governing parts and product retention. At the end of this period, the assembly will no longer be available.

2. Important safety notice

Components identified by the Δ mark indicates special characteristics important for safety. When replacing any of these components, only use specified manufacturer's parts.

3. The S mark indicates service standard parts and may differ from production parts.

4. RESISTORS & CAPACITORS

Unless otherwise specified;

All resistors are in ohms (Ω) K=1000 Ω , M=1000K Ω

All capacitors are in MICRO FARADS (μ F) P= μ F

*Type & Wattage of Resistor

Type

ERC:Solid	ERX:Metal Film	PQ4R:Carbon
ERD:Carbon	ERG:Metal Oxide	ERS:Fusible Resistor
PQRD:Carbon	ER0:Metal Film	ERF:Cement Resistor

Wattage

10,16:1/8W	14,25:1/4W	12:1/2W	1:1W	2:2W	3:3W
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*Type & Voltage of Capacitor

Type

ECFD:Semi-Conductor	ECDD,ECKD,ECBT,PQCB: Ceramic
ECQS:Styrol	ECQE,ECQV,ECQG: Polyester
PQCUV:Chip	ECEA,ECSZ: Electrolytic
ECQMS:Mica	ECQP: Polypropylene

Voltage

ECQ Type	ECQG ECQV Type	ECSZ Type	Others		
1H: 50V	05: 50V	0F:3.15V	0J :6.3V	1V :35V	
2A:100V	1:100V	1A:10V	1A :10V	50,1H:50V	
2E:250V	2:200V	1V:35V	1C :16V	1J :63V	
2H:500V		0J:6.3V	1E,25:25V	2A :100V	

Ref. No.	Part No.	Part Name & Description	Pcs/Set
CABINET & ELECTRICAL PARTS			
1	PQAS5P25Z	SPEAKER	1
2	PQBC10165Z1	BUTTON, PAGE	S 1
3	PQGT12578Z	NAME PLATE	1
4	PQHR10298Y	LED PLATE	1
5	PQHR10320Z	SPEAKER HOLDER	1
6	PQHX10560Z	INSULATOR (RF)	1
7	PQJT10087Z	BATTERY TERMINAL	2
8	PQJT10088Z	BATTERY TERMINAL	3
9	PQKM10200Q1	UPPER CABINET	S 1
10	PQQT11202Z	NOTE LABEL	1
11	PQSA10031Z	ANTENNA	1
12	PQYF10079N1	LOWER CABINET	1
13	XTN3+8G	SCREW (RF)	1
14	XTW3+S10P	SCREW (SPEAKER HOLDER)	2
15	XTW3+S14P	SCREW	5
16	XYC3+CG10FX	SCREW	1
17	PJHE5065Z	SCREW (SP)	3
18	PQBX10215Z1	BUTTON, HANDSET NUMBER	1
19	PQHR10318Z	LED PLATE	1
20	PQMC10206Z	SHIELD COVER	1

Ref. No.	Part No.	Part Name & Description	Pcs/Set
MAIN P.C.BOARD PARTS			
PCB1	PQWPT9310DMH	P.C.BOARD ASSY (RTL)	1
		(ICS)	
IC1	AN6159FA	IC	1
IC2	PQVIPC78M06A	IC	S 1
IC4	MN150808KJAK	IC	1
IC5	PQVI93LC46XI	IC	S 1
IC7	AN6183SAE1	IC	1
IC8	PQVIMC34119M	IC	1
IC9	PQVITC7W04FL	IC	1
		(TRANSISTORS)	
Q1	2SC4116	TRANSISTOR(SI)	1
Q3	2SA1625	TRANSISTOR(SI)	1
Q4	PQVT2N6517CA	TRANSISTOR(SI)	1
Q6	2SD1992A	TRANSISTOR(SI)	1
Q7	2SD601A	TRANSISTOR(SI)	1
Q8	2SD601A	TRANSISTOR(SI)	1
Q9	2SD601A	TRANSISTOR(SI)	1
Q10	2SC4116	TRANSISTOR(SI)	1
Q13	2SD601A	TRANSISTOR(SI)	1
Q16	2SC4116	TRANSISTOR(SI)	1
Q17	2SD601A	TRANSISTOR(SI)	1
Q19	2SC4116	TRANSISTOR(SI)	1
Q20	2SC4116	TRANSISTOR(SI)	1
Q25	2SD1328	TRANSISTOR(SI)	1
Q30	PQVTDTC143E	TRANSISTOR(SI)	1
Q31	2SD1664Q	TRANSISTOR(SI)	1
Q301	2SC4116	TRANSISTOR(SI)	1
Q306	2SC4116	TRANSISTOR(SI)	1
IC3	XN1116	TRANSISTOR(SI)	1
		(DIODES)	
D1	PQVDS1ZB40F1	DIODE(SI)	1
D2	MA110	DIODE(SI)	1
D3	PQVDS1ZB40F1	DIODE(SI)	1
D5	MA110	DIODE(SI)	1
D8	MA4030	DIODE(SI)	1
D10	1SS131	DIODE(SI)	1
D11	MA700A	DIODE(SI)	1
D12	MA110	DIODE(SI)	1
D13	MA112	DIODE(SI)	1
D14	MA112	DIODE(SI)	1
D15	MA110	DIODE(SI)	1
D16	1SS131	DIODE(SI)	1
D17	MA110	DIODE(SI)	1
D20	MA110	DIODE(SI)	1
D23	MA110	DIODE(SI)	1
D30	MA8030	DIODE(SI)	1
D31	MA110	DIODE(SI)	1
D34	MA112	DIODE(SI)	1
D70	MA8068M	DIODE(SI)	1
D90	1SS131	DIODE(SI)	1
LED1	LNJ41LNKXAK	LED	1
LED2	LN31GCPHV	LED	1
LED3	LN31GCPHV	LED	1
LED4	LN31GCPHV	LED	1
LED5	LN31GCPHV	LED	1
LED6	LN31GCPHV	LED	1
		(COILS)	
L1	ELEV102KA	COIL	1
L2	ELEV102KA	COIL	1
L10	PQLQZM8R2K	COIL	1
L11	PQLQZM8R2K	COIL	1

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Ref. No.	Part No.	Value	Pcs/Set	Ref. No.	Part No.	Value	Pcs/Set
R250	ERJ3GEYJ224	220K	1			(CAPACITORS)	
R251	ERJ3GEYJ222	2.2K	1	C1	ECQE2224KF	0.22	1
R252	ERJ3GEYJ271	270	1	C2	ECQE2224KF	0.22	1
R253-269	Not Used			C3	ECUV1H122KBV	1200P	1
				C4-7	Not Used		
R270	Not Used			C8	PQCUV1C224ZF	0.22	S 1
R271	ERJ3GEYJ683	68K	1	C9	ECUV1H151JCV	150P	1
R272	ERJ3GEYJ104	100K	1				
R273	ERJ3GEY0R00	0	1	C10	ECEA1CKS100	10	1
R274	ERJ3GEYJ104	100K	1	C11	ECUV1E104ZFV	0.1	S 1
R275-319	Not Used			C12	Not Used		
				C13	Not Used		
R320	Not Used			C14	PQCUV1H333JC	0.033	S 1
R321	ERJ3GEYJ103	10K	1	C15	ECUV1H101JCV	100P	1
R322	ERJ3GEYJ474	470K	1	C16	ECUV1H472KBV	4700P	1
R323-399	Not Used			C17	ECUV1E104ZFV	0.1	S 1
				C18	PQCUV1E104MD	0.1	1
R400	ERJ3GEY0R00	0	1	C19	ECST0JY106	10	1
J73	ERJ3GEY0R00	0	1	C20	PQCUV1E104MD	0.1	1
J76	ERJ3GEY0R00	0	1	C21	PQCUV1E334ZF	0.33	1
J79	ERJ3GEY0R00	0	1	C22	ECUV1E104ZFV	0.1	S 1
J84	ERJ3GEY0R00	0	1	C23	ECST0JY106	10	1
J87	ERJ3GEY0R00	0	1	C24	ECUV1E104ZFV	0.1	S 1
J90	ERJ3GEY0R00	0	1	C25	ECUV1E104ZFV	0.1	S 1
J93	ERJ3GEY0R00	0	1	C26	ECUV1E104ZFV	0.1	S 1
J99	ERJ3GEY0R00	0	1	C27	PQCUV1C105ZF	1	S 1
J103	ERJ3GEY0R00	0	1	C28	ECUV1H102KBV	1000P	1
J150	ERJ3GEY0R00	0	1	C29	ECUV1H101JCV	100P	1
J151	ERJ3GEY0R00	0	1				
				C30	ECUV1H223KBV	0.022	S 1
J75	PQ4R10XJ000	0	1	C31	ECUV1H223KBV	0.022	S 1
J77	PQ4R10XJ000	0	1	C32	PQCUV1H102J	1000P	S 1
J82	PQ4R10XJ000	0	1	C33	PQCUV1H180JC	18P	1
J85	PQ4R10XJ000	0	1	C34	Not Used		
J88	PQ4R10XJ000	0	1	C35	ECST1AX226	22	1
				C36	PQCUV1E104MD	0.1	1
J68	PQ4R18XJ000	0	1	C37	PQCUV1E104MD	0.1	1
J69	PQ4R18XJ000	0	1	C38	ERJ3GEY0R00	0	1
J70	PQ4R18XJ000	0	1	C39	ECUV1H223KBV	0.022	S 1
J71	PQ4R18XJ000	0	1				
J74	PQ4R18XJ000	0	1	C40	ECUV1H223KBV	0.022	S 1
J78	PQ4R18XJ000	0	1	C41	PQCUV1C105ZF	1	S 1
J80	PQ4R18XJ000	0	1	C42	ECST0JY106	10	1
J81	PQ4R18XJ000	0	1	C43	ECST0JY475	4.7	1
J83	PQ4R18XJ000	0	1	C44	ECUV1H332KBV	3300P	1
J86	PQ4R18XJ000	0	1	C45	ECUV1E104ZFV	0.1	S 1
J89	PQ4R18XJ000	0	1	C46	ECEA1CU221	220	1
J91	PQ4R18XJ000	0	1	C47	PQCUV1E104MD	0.1	1
J92	PQ4R18XJ000	0	1	C48	PQCUV1E104MD	0.1	1
J94	PQ4R18XJ000	0	1	C49	ECUV1H103KBV	0.01	1
J95	PQ4R18XJ000	0	1				
J96	PQ4R18XJ000	0	1	C50	ECUV1H103KBV	0.01	1
J97	PQ4R18XJ000	0	1	C51	ECUV1H223KBV	0.022	S 1
J102	PQ4R18XJ000	0	1	C52	ECST0JY475	4.7	1
J104	PQ4R18XJ000	0	1	C53	ECST0JY106	10	1
J105	PQ4R18XJ000	0	1	C54	ECST0JY475	4.7	1
J108	PQ4R18XJ000	0	1	C55	ECUV1H153KBV	0.015	1
J202	PQ4R18XJ000	0	1	C56	Not Used		
J211	PQ4R18XJ000	0	1	C57	Not Used		
J300	PQ4R18XJ000	0	1	C58	ECST0JX226	22	1
J303	PQ4R18XJ000	0	1	C59	EECW5R5D473	0.047	S 1
D33	PQ4R18XJ000	0	1	C60	PQCUV1H103KB	0.01	1
D45	PQ4R10XJ000	0	1	C61	ECUV1H180JCV	18P	1
				C62	ECUV1H180JCV	18P	1
				C63-69	Not Used		
				C70-73	Not Used		
				C74	ECUV1C104KBV	0.1	1
				C75	ECUV1H104MD	0.1	1

This replacement parts list is Denmark version only. Refer to the simplified manual (cover) for other areas.

Ref. No.	Part No.	Value	Pcs/Set	Ref. No.	Part No.	Value	Pcs/Set
R78	PQ4R10XJ123	12K	1	R160	ERJ3GEYJ101	100	1
R79	ERDS2TJ564	560K	1	R161	ERJ3GEYJ103	10K	1
R80	ERJ3GEYJ123	12K	1	R162~165	Not Used		
R81	ERJ3GEYJ183	18K	1	R166	ERJ3GEY0R00	0	1
R82	ERJ3GEYJ153	15K	1	R167	ERJ3GEY0R00	0	1
R83	Not Used			R168	ERJ3GEYJ681	680	1
R84	Not Used			R169	Not Used		
R85	PQ4R10XJ471	470	1	R170	ERJ3GEYJ330	33	1
R86	ERJ3GEYJ473	47K	1	R171	ERJ3GEYJ103	10K	1
R87~89	Not Used			R172	Not Used		
R90	ERD25TJ271	270	1	R173	ERJ3GEYJ224	220K	1
R91	Not Used			R174	ERJ3GEYJ224	220K	1
R92	ERD25TJ181	180	1	R175	ERJ3GEYJ392	3.9K	1
R93	PQ4R10XJ222	2.2K	1	R176	ERJ3GEYJ391	390	1
R94	ERJ3GEYJ103	10K	1	R177	Not Used		
R95	ERJ3GEYJ102	1K	1	R178	ERJ3GEYJ153	15K	1
R96	ERJ3GEYJ102	1K	1	R179	Not Used		
R97	ERJ3GEYJ683	68K	1	R180	ERJ3GEYJ102	1K	1
R98	ERJ3GEYJ103	10K	1	R181	ERJ3GEYJ102	1K	1
R99	ERJ3GEYJ104	100K	1	R182	ERJ3GEYJ102	1K	1
R100	ERJ3GEYJ822	8.2K	1	R183	ERJ3GEYJ102	1K	1
R101	ERJ3GEYJ473	47K	1	R184	ERJ3GEYJ104	100K	1
R102	ERJ3GEYJ562	5.6K	1	R186	ERJ3GEYJ103	10K	1
R103	ERJ3GEYJ223	22K	1	R187	ERJ3GEY0R00	0	1
R104	ERJ3GEYJ562	5.6K	1	R188	PQ4R18XJ000	0	1
R105	ERJ3GEYJ822	8.2K	1	R189	ERJ3GEYJ104	100K	1
R106	Not Used			R190	ERJ3GEYJ100	10	1
R107	ERJ3GEYJ332	3.3K	1	R191	ERJ3GEYJ681	680	1
R108	ERJ3GEYJ105	1M	1	R192	ERJ3GEYJ681	680	1
R109	ERJ3GEYJ271	270	1	R193	ERJ3GEYJ681	680	1
R110	ERJ3GEYJ681	680	1	R194	ERJ3GEYJ681	680	1
R111	ERJ3GEYJ104	100K	1	R191~194	Not Used		
R112	Not Used			R195	ERJ3GEYJ103	10K	1
R113	ERJ3GEYJ223	22K	1	R196	ERJ3GEYJ104	100K	1
R114	ERJ3GEYJ223	22K	1	R197	ERJ3GEYJ563	56K	1
R115	ERJ3GEYJ223	22K	1	R198	Not Used		
R116	ERJ3GEYJ223	22K	1	R199	ERJ3GEYJ102	1K	1
R117	ERJ3GEYJ104	100K	1	R200	ERJ3GEYJ104	100K	1
R118	Not Used			R202	ERJ3GEYJ100	10	1
R119	Not Used			R203	ERJ3GEYJ101	100	1
R120	Not Used			R204~209	Not Used		
R121	ERJ3GEY0R00	0	1	R210	ERJ3GEYJ332	3.3K	1
R122~139	Not Used			R211	ERJ3GEYJ224	220K	1
R140	Not Used			R212~214	Not Used		
R141	ERJ3GEYJ222	2.2K	1	R215	ERJ3GEYJ681	680	1
R142	ERJ3GEYJ272	2.7K	1	R216~219	Not Used		
R143	ERJ3GEYJ563	56K	1	R220	ERJ3GEYJ222	2.2K	1
R144	ERJ3GEYJ272	2.7K	1	R221~229	Not Used		
R145	ERJ3GEYJ123	12K	1	R230	ERD10TLJ561	560	1
R146	ERJ3GEYJ221	220	1	R231	PQ4R10XJ221	220	1
R147	PQ4R10XJ472	4.7K	1	R232	PQ4R10XJ121	120	1
R148	ERJ3GEYJ103	10K	1	R233	PQ4R10XJ120	12	1
R149	ERJ3GEYJ104	100K	1	R234~239	Not Used		
R150	ERJ3GEYJ473	47K	1	R240	Not Used		
R151	Not Used			R241	Not Used		
R152	PQ4R10XJ000	0	1	R242	ERJ3GEYJ332	3.3K	1
R153	Not Used			R243	ERJ3GEYJ332	3.3K	1
R154	ERJ3GEYJ393	39K	1	R244	ERJ3GEYJ102	1K	1
R155	ERJ3GEYJ473	47K	1	R245	ERJ3GEYJ102	1K	1
R156	ERJ3GEYJ683	68K	1	R246	ERJ3GEYJ272	2.7K	1
R157	ERJ3GEYJ472	4.7K	1	R247	ERJ3GEYJ182	1.8K	1
R158	ERJ3GEYJ103	10K	1	R248	ERJ3GEYJ223	22K	1
R159	Not Used			R249	ERJ3GEYJ102	1K	1

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Ref. No.	Part No.	Value	Pcs/Set	Ref. No.	Part No.	Value	Pcs/Set
C76	ECUV1C104KBV	0.1	1	C321	ECUV1H102KBV	1000P	1
C77	PQCUV1C105ZF	1	1	C322~329	Not Used		
C78	ECUV1E104ZFB	0.1	S 1	C330	ECUV1H682KBV	6800P	1
C79	PQCUV1H681JC	680P	1	C331~499	Not Used		
C80	Not Used			C500	Not Used		
C81	ECUV1H333KDV	0.033	1	C501	ECUV1H103KBV	0.01	1
C82	ECUV1E104ZFB	0.1	S 1	C502~599	Not Used		
C83	ECUV1H333KDV	0.033	S 1	C600	ECUV1E104ZFB	0.1	1
C84	Not Used			C601~659	Not Used		
C85	ECUV1H223KBV	0.022	S 1	C660~665	Not Used		
C86	ERJ3GEY0R00	0	1	C666	ECKD3D681KBP	680P	1
C87	Not Used			C667	Not Used		
C88	ECUV1H223KBV	0.022	S 1	C668	ECST1CC336	33	1
C89	ECEA1HKS100	10	1	C669~799	Not Used		
C90	ECEA1AKS221	220	1	C800	ECUV2H681KB		1
C91	ECUV1E104ZFB	0.1	S 1	C801~899	Not Used		
C92	ECUV1E104ZFB	0.1	1				
C93	ECEA1CKS220	22	1				
C94	PQCUV1C105ZF	1	S 1				
C95	PQCUV1H222KB	2200P	1				
C96	PQCUV1E473MD	0.047	1				
C97	ECST0JX226	22	1	C900	ECUV1E104ZFB	0.1	1
C98	ECST0JX226	22	1	C901	ECUV1E104ZFB	0.1	1
C99	ECUV1E105ZF	1	S 1	C902	PQCUV1C105ZF	1	1
C100	PQCUV1H103KB	0.01	1				
C101	Not Used						
C102	Not Used						
C103	ECUV1H223KBV	0.022	S 1				
C104	ECUV1H332KBV	0.0033	1				
C105	ECEA1AK221	220	S 1				
C106	Not Used						
C107	ECST1AX106	10	1				
C108~129	Not Used						
C130	ECUV1H102KBV	1000P	1				
C131~139	Not Used						
C140	ECUV1H222KBV	2200P	1				
C141~149	Not Used						
C150	ECUV1E104ZFB	0.1	1				
C151	Not Used						
C152	ECUV1H101JCV	100P	1				
C153~159	Not Used						
C160	Not Used						
C161	ECST1CY475	4.7	1				
C162	ECST0JY475	4.7	1				
C163	ECUV1H102KBV	1000P	1				
C164	ECUV1H473MDV	0.047	1				
C165~169	Not Used						
C170	Not Used						
C171	PQCUV1C105ZF	1	1				
C172	PQ4R10XJ000	0	1				
C173	ECUV1E104ZFB	0.1	1				
C174~199	Not Used						
C200	PQCUV1E104MD	0.1	1				
C201~249	Not Used						
C250	PQ4R10XJ000	0	1				
C251~299	Not Used						
C300	EECW5R5D473	0.047	1				
C301~319	Not Used						
C320	Not Used						

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Ref. No.	Part No.	Part Name & Description	Pcs/Set	Ref. No.	Part No.	Value	Pcs/Set
RF UNIT PARTS				R210	ERJ3GEYJ104	100K	1
PCB2	PQLP10153S	P.C.BOARD ASS'Y (RTL)	1	R211	ERJ3GEYJ122	1.2K	1
IC201	PQVIM64084GP	(ICS)	1	R212	ERJ3GEYJ561	560	1
IC202	PQVIPC2746TE	IC	1	R213	ERJ3GEYJ470	47	1
				R214	ERJ3GEYJ104	100K	1
				R215	ERJ3GEYJ681	680	1
				R216	Not Used		
				R217	Not Used		
				R218	ERJ3GEYJ820	82	1
				R219	ERJ3GEYJ123	12K	1
		(TRANSISTORS)		R220	ERJ3GEYJ470	47	1
Q201	2SC4099NT106	TRANSISTOR(SI)	1	R221	ERJ3GEYJ100	10	1
Q202	2SC4099NT106	TRANSISTOR(SI)	1	R222	ERJ3GEYJ123	12K	1
Q203	2SC4571R77	TRANSISTOR(SI)	S 1	R223	ERJ3GEYJ473	47K	1
Q204	2SC3356R24	TRANSISTOR(SI)	1	R224	ERJ3GEYJ683	68K	1
Q205	2SC4571R77	TRANSISTOR(SI)	S 1	R225	ERJ3GEYJ470	47	1
Q206	2SC4226R24	TRANSISTOR(SI)	1	R226	ERJ3GEYJ470	47	1
				R227	ERJ3GEYJ390	39	1
		(COILS)		R228	ERJ3GEYJ681	680	1
L201	PQLQR2N1R0KT	COIL	1	R229	ERJ3GEYJ820	82	1
L202	PQLQR2N1R0KT	COIL	1	R230	ERJ3GEYJ563	56K	1
L203	PQLQR2M4N7K	COIL	1	R231	ERJ3GEYJ153	15K	1
L204	PQLQR2M10NKT	COIL	1	R232	ERJ3GEYJ153	15K	1
L205	PQLQR2M10NKT	COIL	1	R233	ECUV1H010CCV	1P	1
L206	MQLRE12NJF	COIL	1	R234	ERJ3GEYJ100	10	1
L207	MQLRE10NJF	COIL	1	R235-239	Not Used		
L209	PQLQR2M4N7K	COIL	1	R240	ERJ3GEYJ272	2.7K	1
L210	PQLQR2M4N7K	COIL	1	R241-259	Not Used		
L220	PQLQR2M8N2KT	COIL	1	R260	Not Used		
L221	PQLQR2M8N2KT	COIL	1	R261	ERJ3GEYJ000	0	1
C233	PQLQR2M10NKT	COIL	1	R262-269	Not Used		
				R270	ERJ3GEYJ000	0	1
		(OSCILLATORS)					
VC0201	PQV016Z	OSCILLATOR	1				
VC0202	PQV015Z	OSCILLATOR	1				
		(SAW FILTERS)					
F201	PQVCM21M8PJ2	CERAMIC FILTER	1				
F202	PQVSM959E11L	CERAMIC FILTER	1				
F203	PQVSM914E11L	CERAMIC FILTER	1				
F204	EZFN914AM01	CERAMIC FILTER	1				
		(OTHERS)					
VC201	PQCVTZB10ZA	TRIMMER CAPACITOR	1			(CAPACITORS)	
X201	PQVC01280K4Z	CRYSTAL OSCILLATOR	1	C201	Not Used		
CN201	PQJS10A82Z	CONNECTOR	1	C202	ECST0JX226	22	1
				C203	PQCUV1C105ZF	1	1
				C204	ECUV1H101JCV	100P	1
				C205	ECUV1H821KBV	820P	1
				C206	Not Used		
				C207	ECUV1H332KBV	0.0033	1
				C208	ECUV1H332KBV	0.0033	1
				C209	ECUV1E104ZFV	0.1	S 1
		(RESISTORS)		C210	ECUV1H103KBV	0.01	1
R201	ERJ3GEYJ220	22	1	C211	ECST0JX226	22	1
R202	ERJ3GEYJ680	68	1	C212	ECUV1H103KBV	0.01	1
R203	ERJ3GEYJ000	0	1	C213	ECUV1H101JCV	100P	1
R204	ERJ3GEYJ153	15K	1	C214	Not Used		
R205	ERJ3GEYJ153	15K	1	C215	ECUV1H040CCV	4P	1
R206	ERJ3GEYJ563	56K	1	C216	ECUV1H103KBV	0.01	1
R207	ERJ3GEYJ470	47	1	C217	ECUV1H270JCV	27P	1
R208	ERJ3GEYJ104	100K	1	C218	ECUV1E104ZFV	0.1	S 1
R209	ERJ3GEYJ272	2.7K	1	C219	Not Used		
				C220	ECUV1H010CCV	1P	1
				C221	Not Used		

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Ref. No.	Part No.	Value	Pcs/Set
C222	ECUV1H100DCV	10P	1
C223	ECUV1H270JCV	27P	1
C224	ECUV1H270JCV	27P	1
C225	Not Used		
C226	Not Used		
C227	ECUV1H102KBV	1000P	1
C228	ECUV1H020CCV	2P	1
C229	ECUV1H102KBV	1000P	1
C230	ECUV1H040CCV	4P	1
C231	Not Used		
C232	ECUV1H102KBV	0.001	1
C234	ECUV1H020CCV	2P	1
C235	ECUV1H101JCV	100P	1
C236	ECUV1H101JCV	100P	1
C237	Not Used		
C238	ECUV1H040CCV	4P	1
C239	Not Used		
C240	ECUV1H040CCV	4P	1
C241	ECUV1H102KBV	0.001	1
C242	ECUV1H102KBV	0.001	1
C243	Not Used		
C244	ECUV1H102KBV	0.001	1
C245	ECUV1H101JCV	100P	1
C246	ECUV1H020CCV	2P	1
C247	ECUV1E104ZFV	0.1	1
C248	Not Used		
C249	ECST0JX226	22	1
C250	Not Used		
C251	ECUV1H102KBV	0.001	1
C252	ECUV1C224KB	0.22	1
C253	ECUV1H562KBV	0.0056	1
C254	ECUV1H562KBV	0.0056	1
C255-259	Not Used		
C260	Not Used		
C261	Not Used		
C262	ECUV1H101JCV	100P	1
L208	ECUV1H101JCV	100P	1

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REPLACEMENT PARTS LIST

Model KX-T9310DMR

1. RTL (Retention Time Limited)

Note: The marking (RTL) indicates that the Retention Time is limited for this item. After the discontinuation of this assembly in production, the item will continue to be available for a specific period of time. The retention period of availability depends on the type of assembly and the laws governing parts and product retention. At the end of this period, the assembly will no longer be available.

2. Important safety notice

Components identified by the Δ mark indicates special characteristics important for safety. When replacing any of these components, only use specified manufacturer's parts.

3. The S mark indicates service standard parts and may differ from production parts.

4. RESISTORS & CAPACITORS

Unless otherwise specified;

All resistors are in ohms (Ω) K=1000 Ω , M=1000K Ω

All capacitors are in MICRO FARADS (μ F) P= μ F

*Type & Wattage of Resistor

Type

ERC:Solid	ERX:Metal Film	PQ4R:Carbon
ERD:Carbon	ERG:Metal Oxide	ERS:Fusible Resistor
PQRD:Carbon	ER0:Metal Film	ERF:Cement Resistor

Wattage

10,16:1/8W	14,25:1/4W	12:1/2W	1:1W	2:2W	3:3W
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*Type & Voltage of Capacitor

Type

ECFD:Semi-Conductor	ECCD,ECKD,ECBT,PQCBC : Ceramic
ECQS:Styrol	ECQE,ECQV,ECQG : Polyester
PQCUV:Chip	ECEA,ECSZ : Electrolytic
ECQMS:Mica	ECQP : Polypropylene

Voltage

ECQ Type	ECQG Type	ECSZ Type	Others		
1H: 50V	05: 50V	0F:3.15V	0J :6.3V	1V :35V	
2A:100V	1:100V	1A:10V	1A :10V	50,1H:50V	
2E:250V	2:200V	1V:35V	1C :16V	1J :63V	
2H:500V		0J:6.3V	1E,25:25V	2A :100V	

Ref. No.	Part No.	Part Name & Description	Pcs/Set
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CABINET & ELECTRICAL PARTS

101	PQYM10046Z1	FRONT CABINET	1
102	PQKF10119Z1	REAR CABINET	1
103	PQSA808X	ANTENNA	1
104	XWC26BFN	WASHER	1
105	PQXS10016Z1	BUTTON, KEY PAD	1
106	PQBD10032Z1	BUTTON, POWER/RINGER	S 1
107	PQAX3P19Z	SPEAKER	1
108	PQEFBQM111G1	BUZZER	S 1
109	PQJM122Z	MICROPHONE	1
110	PQJT10085Z	CHARGE TERMINAL	S 3
111	PQJT10086Z	CHARGE TERMINAL	2
112	PQH10085Z	ID COVER	1
113	PQKE10038Z1	HANGER	1
114	PQHG10300Z	SPACER (SPEAKER)	1
115	PQHG10286Z	SPACER (MIC)	1
116	PQH10503Z	SPACER (MIC)	1
117	PQHG10326Z	SPACER (RINGER)	1
118	XTN26+6J	SCREW	2
119	XTW26+12F	SCREW	4
120	PQH10508Z	INSULATOR	1
121	PQGT12184Z	NAME PLATE	1

Ref. No.	Part No.	Part Name & Description	Pcs/Set
MAIN P.C.BOARD PARTS			
PCB100	PQWPT9310DMR	P.C.BOARD ASS'Y (RTL)	1
		(ICS)	
IC1	AN6159NFA	IC	1
IC2	PQVIXC3002MR	IC	1
IC3	PQVIA8184SLT	IC	1
IC4	PQVISC78184D	IC	1
IC5	PQVI93LC46XI	IC	1
IC6	PQVI4829C23H	IC	1
		(TRANSISTORS)	
Q1	2SD1328	TRANSISTOR(SI)	1
Q5	PQVTDTC143E	TRANSISTOR(SI)	1
Q6	2SC4116	TRANSISTOR(SI)	1
Q7	2SC4116	TRANSISTOR(SI)	1
Q9	2SB1218A	TRANSISTOR(SI)	1
Q11	PQVTDTC143E	TRANSISTOR(SI)	1
Q12	PQVTDTC143E	TRANSISTOR(SI)	1
Q13	PQVTDTA143EU	TRANSISTOR(SI)	1
Q14	PQVDTDB123E	TRANSISTOR(SI)	1
Q15	2SD1819A	TRANSISTOR(SI)	1
Q16	PQVDTDB123E	TRANSISTOR(SI)	1
Q17	PQVDTDB123E	TRANSISTOR(SI)	1
Q18	PQVTDTA143EU	TRANSISTOR(SI)	1
Q19	2SD1819A	TRANSISTOR(SI)	1
Q21	PQVTDTC144TU	TRANSISTOR(SI)	S 1
		(DIODE(SI))	
D1	MA8150	DIODE(SI)	1
D3	MA110	DIODE(SI)	1
D5	PQVDRB751H4	DIODE(SI)	1
D11	MA729	DIODE(SI)	1
D12	MA729	DIODE(SI)	1
D13	MA729	DIODE(SI)	1
D14	MA729	DIODE(SI)	1
D15	MA110	DIODE(SI)	1
D16	MA8039	DIODE(SI)	1
D17	MA110	DIODE(SI)	1
		(VARIABLE RESISTORS)	
VR1	EVM1YSX50B24	VARIABLE RESISTOR	1
VR3	EVM1YSX50B54	VARIABLE RESISTOR	1
VR4	EVM1SSX50B53	VARIABLE RESISTOR	1
		(CRYSTAL OSCILLATORS)	
X1	PQVCE2094N4R	CRYSTAL OSCILLATOR	1
X3	PQVBTCS4.00M	CRYSTAL OSCILLATOR	1
X4	PQVCE3276N9Z	CRYSTAL OSCILLATOR	1
		(SWITCH)	
S1	ESD11H120	SWITCH, POWER	1
		(CONNECTORS)	
CN1	PQJP10B01Z	CONNECTOR	1
CN2	PQJS36A62Z	CONNECTOR	1
		(CERAMIC FILTERS)	
F1	PQVFSFPC455E	CERAMIC FILTER	1
L1	PQVFCDBC455M	CERAMIC FILTER	1

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Ref. No.	Part No.	Part Name & Description	Pcs/Set	Ref. No.	Part No.	Value	Pcs/Set
		(RESISTORS)					
R1	ERJ3GEYJ684	680K	1	R67	ERJ3GEYJ474	470K	1
R2	ERJ3GEYJ100	10	1	R68	Not Used		
R3	ECUV1H472KBV	0.0047	1	R69	Not Used		
R4	ERJ3GEYJ332	3.3K	1	R70	Not Used		
R5	ERJ3GEYJ393	39K	1	R71	PQ4R10XJ000	0	1
R6	Not Used			R72	PQ4R10XJ000	0	1
R7	ERJ3GEYJ473	47K	1	R73	PQ4R10XJ221	220	1
R8	ERJ3GEYJ473	47K	1	R74~78	Not Used		
R9	ERJ3GEYJ183	18K	1	R79	ERJ3GEYJ103	10K	1
R10	ERJ3GEYJ183	18K	1	R80	ERJ3GEYJ104	100K	1
R11	ERJ3GEYJ683	68K	1	R81	ERJ3GEYJ683	68K	1
R12	ERJ3GEYJ823	82K	1	R82~86	Not Used		
R13	ERJ3GEYJ222	2.2K	1	R87	ERJ3GEYJ100	10	1
R14	ERJ3GEYJ000	0	1	R88	ERJ3GEYJ103	10K	1
R15	ERJ3GEYJ104	100K	1	R89	ERJ3GEYJ103	10K	1
R16	ERJ3GEYJ473	47K	1				
R17	Not Used			R90	ERJ3GEYJ104	100K	1
R18	ERJ3GEYJ564	560K	1	R91	ERJ3GEYJ104	100K	1
R19	ERJ3GEYJ103	10K	1	R92	ERJ3GEYJ104	100K	1
R20	ERJ3GEYJ183	18K	1	R93	ERJ3GEYJ104	100K	1
R21	ERJ3GEYJ223	22K	1	R94	ERJ3GEYJ103	10K	1
R22	ERJ3GEYJ183	18K	1	R95	ERJ3GEYJ103	10K	1
R23	ERJ3GEYJ104	100K	1	R96	ERJ3GEYJ000	0	1
R24	ERJ3GEYJ184	180K	1	R97	ERJ3GEYJ000	0	1
R25	ERJ3GEYJ823	82K	1	R98	ERJ3GEYJ000	0	1
R26	ERJ3GEYJ333	33K	1	R99	ERJ3GEYJ000	0	1
R27	ERJ3GEYJ000	0	1				
R28	ERJ3GEYJ562	5.6K	1	R100	ERJ3GEYJ101	100	1
R29	ERJ3GEYJ472	4.7K	1	R101	ERJ3GEYJ101	100	1
R30	ERJ3GEYJ274	270K	1	R102	ERJ3GEYJ101	100	1
R31	ERJ3GEYJ103	10K	1	R103	ERJ3GEYJ101	100	1
R32	Not Used			R104	ERJ3GEYJ100	10	1
R33	ERJ3GEYJ222	2.2K	1	R105	Not Used		
R34~36	Not Used			R106	ERJ3GEYJ820	82	1
R37	ERJ3GEYJ0R00	0	1	R107	ERJ3GEYJ220	22	1
R38	ERJ3GEYJ105	1M	1	R108	ERJ3GEYJ101	100	1
R39	ERJ3GEYJ102	1K	1	R109	Not Used		
R40	Not Used			R110	ERJ3GEYJ102	1K	1
R41	ERJ3GEYJ100	10	1	R111	Not Used		
R42	ERJ3GEYJ100	10	1	R112	ERJ3GEYJ102	1K	1
R43	Not Used			R113	ERJ3GEYJ102	1K	1
R44	ERJ3GEYJ100	10	1	R114	Not Used		
R45	ERJ3GEYJ100	10	1	R115	Not Used		
R46	ERJ3GEYJ102	1K	1	R116	ERJ3GEYJ224	220K	1
R47	ERJ3GEYJ102	1K	1	R117	ERJ3GEYJ271	270	1
R48	ERJ3GEYJ102	1K	1	R118	ERJ3GEYJ392	3.9K	1
R49	ERJ3GEYJ102	1K	1	R119	Not Used		
R50	Not Used						
R51	ERJ2GEJ124	120K	1	R120	PQ4R10XJ000	0	1
R52	Not Used			R121	PQ4R10XJ000	0	1
R53	ERJ2GEJ563	56K	1	R122	Not Used		
R54	Not Used			R123	ERJ3GEYJ102	1K	1
R55	ERJ3GEYJ273	27K	1	R124	ERJ3GEYJ102	1K	1
R56	Not Used			R125	ERJ3GEYJ102	1K	1
R57	ERJ2GEJ153	15K	1	R126	ERJ3GEYJ102	1K	1
R58	Not Used			R127	ERJ3GEYJ102	1K	1
R59	Not Used			R128	ERJ3GEYJ000	0	1
R60	ERJ3GEYJ102	1K	1	R129	Not Used		
R61	ERJ3GEYJ102	1K	1				
R62	ERJ3GEYJ222	2.2K	1	R130	ERJ3GEYJ562	5.6K	1
R63	ERJ3GEYJ334	330K	1	R131	ERJ3GEYJ000	0	1
R64	ERJ3GEYJ103	10K	1	R132	ERJ3GEYJ000	0	1
R65	ERJ3GEYJ472	4.7K	1	R133~139	Not Used		
R66	ERJ3GEYJ124	120K	1				
				R140~148	Not Used		
				R149	ERJ3GEYJ183	18K	1
				R150~152	Not Used		

This replacement parts list is Denmark version only. Refer to the simplified manual (cover) for other areas.

Ref. No.	Part No.	Value	Pcs/Set	Ref. No.	Part No.	Value	Pcs/Set
R153	ERJ3GEYJ000	0	1	R329	ERJ2GEJ103	10K	1
R154	Not Used						
R155	ERJ3GEYJ823	82K	1	R330	ERJ2GEJ103	10K	1
R156	Not Used			R331	ERJ2GEJ103	10K	1
R157	ERJ3GEYJ000	0	1	R332	ERJ2GEJ103	10K	1
R158	Not Used			R333	ERJ2GEJ103	10K	1
R159	ERJ3GEYJ103	10K	1	R334	ERJ2GEJ103	10K	1
R160~163	Not Used			R335	ERJ2GEJ103	10K	1
R164	ERJ3GEYJ184	180K	1	R336	ERJ2GEJ103	10K	1
R165	ERJ3GEYJ183	18K	1				
R166	ERJ3GEYJ152	1.5K	1				
R167	ERJ3GEYJ562	5.6K	1				
R168	ERJ3GEYJ000	0	1				
R169	ERJ3GEYJ000	0	1				
R170	Not Used						
R171	Not Used						
R172	ERJ3GEYJ222	2.2K	1				
R173	ERJ3GEYJ101	100	1				
R174	ERJ3GEYJ222	2.2K	1				
R175	ERJ3GEYJ102	1K	1				
R176	ERJ3GEYJ104	100K	1				
R177	ERJ3GEYJ152	1.5K	1				
R178	ERJ3GEYJ000	0	1				
R179	ERJ3GEYJ102	1K	1				
R180	ERJ3GEYJ824	820K	1				
R181	ERJ3GEYJ681	680	1				
R182	ERJ3GEYJ102	1K	1				
R183	ERJ3GEYJ103	10K	1				
R184~189	Not Used						
R190~194	Not Used						
R195	ERJ3GEYJ000	0	1				
R196	ERJ3GEYJ102	1K	1				
R197	PQ4R10XJ221	220	1				
R198	Not Used						
R199	Not Used						
R300	Not Used						
R301	ERJ2GEJ103	10K	1				
R302	ERJ2GEJ103	10K	1				
R303	ERJ2GEJ103	10K	1				
R304	ERJ2GEJ103	10K	1				
R305	ERJ2GEJ103	10K	1				
R306	ERJ2GEJ103	10K	1				
R307	ERJ2GEJ103	10K	1				
R308	ERJ2GEJ103	10K	1				
R309	ERJ2GEJ103	10K	1				
R310	ERJ2GEJ103	10K	1				
R311	ERJ2GEJ103	10K	1				
R312	ERJ2GEJ103	10K	1				
R313	ERJ2GEJ103	10K	1				
R314	ERJ2GEJ103	10K	1				
R315	ERJ2GEJ103	10K	1				
R316	ERJ2GEJ103	10K	1				
R317	ERJ2GEJ103	10K	1				
R318	ERJ2GEJ103	10K	1				
R319	ERJ2GEJ103	10K	1				
R320	ERJ2GEJ103	10K	1				
R321	ERJ2GEJ103	10K	1				
R322	ERJ2GEJ103	10K	1				
R323	ERJ2GEJ103	10K	1				
R324	ERJ2GEJ103	10K	1				
R325	ERJ2GEJ103	10K	1				
R326	ERJ2GEJ103	10K	1				
R327	ERJ2GEJ103	10K	1				
R328	ERJ2GEJ103	10K	1				

This replacement parts list is Denmark version only. Refer to the simplified manual (cover) for other areas.

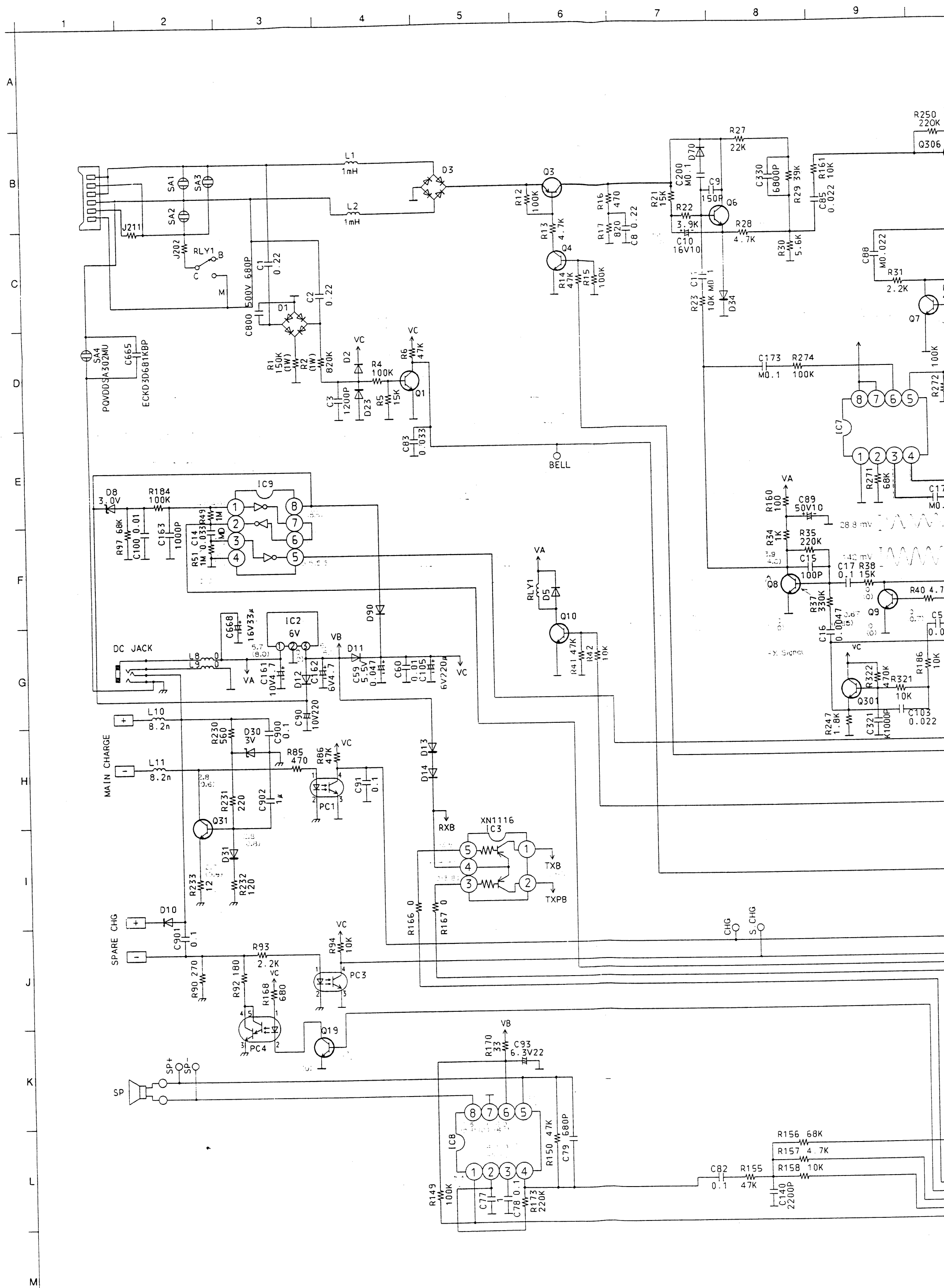
Ref. No.	Part No.	Value	Pcs/Set	Ref. No.	Part No.	Value	Pcs/Set
C60	Not Used			RF UNIT PARTS			
C61	ECUV1H180JCV	18P	1	PCB200	PQLP10154S	P.C.BOARD ASST (RTL)	1
C62	ECST0JX226	22	1				
C63	PQCUV1H683MD	0.068	S 1			(ICS)	
C64	PQCUV1H105JC	1	S 1	IC201	PQVIM64084GP	IC	1
C65	PQCUV1H473MD	0.047	1	IC202	PQVIPC2746TE	IC	1
C66	ECST0JY106	10	S 1				
C67	PQCUV1H105JC	1	S 1			(TRANSISTORS)	
C68	PQCUV1H105JC	1	S 1	Q201	2SC4099NT106	TRANSISTOR(SI)	1
C69	PQCUV1H105JC	1	S 1	Q202	2SC4099NT106	TRANSISTOR(SI)	1
				Q203	2SC4571R77	TRANSISTOR(SI)	S 1
C70	PQCUV1H105JC	1	S 1	Q204	2SC3356R24	TRANSISTOR(SI)	1
C71	ECUV1H222KBV	0.0022	1	Q205	2SC4571R77	TRANSISTOR(SI)	S 1
C72	Not Used			Q206	2SC4226R24	TRANSISTOR(SI)	1
C73	Not Used						
C74	ECUV1H680JCV	68P	1			(COILS)	
C75	Not Used			L201	PQLQR2N1R0KT	COIL	1
C76	ECUV1H153KBV	0.015	S 1	L202	PQLQR2N1R0KT	COIL	1
C77	ECST0JX226	22	1	L203	PQLQR2M4N7K	COIL	1
C78	PQCUV1H105JC	1	S 1	L204	MLRE10NJF	COIL	1
C79	Not Used			L206	MLRE12NJF	COIL	1
				L207	MLRE10NJF	COIL	1
C80	PQ4R10XJ000	0	1	L208	MLRE10NJF	COIL	1
C81	PQCUV1H105JC	1	S 1	L209	PQLQR2M4N7K	COIL	1
C82	PQCUV1H105JC	1	S 1	L210	PQLQR2M4N7K	COIL	1
C83-99	Not Used			L213	PQLQR2M4N7K	COIL	1
				L220	MLRE10NJF	COIL	1
C100	PQCUV1H105JC	1	S 1	L221	PQLQR2M8N2KT	COIL	1
C101-199	Not Used			C233	MLRE10NJF	COIL	1
C200	ECUV1H100DCV	10P	S 1			(OSCILLATORS)	
C201	ECUV1H104ZV	0.1	S 1	VC0201	PQV022Z	OSCILLATOR	1
C202	ECUV1H561JCV	560P	1	VC0202	PQV021Z	OSCILLATOR	1
J1	ECUV1H222KBV	0.0022	1			(SAW FILTERS)	
				F201	PQVCM21M8PJ2	CERAMIC FILTER	1
				F202	PQVSM914E11L	CERAMIC FILTER	1
				F203	PQVSM959E11L	CERAMIC FILTER	1
				F204	EZFN959AM01	CERAMIC FILTER	1
						(OTHERS)	
				VC201	PQCVTZB10ZA	TRIMMER CAPACITOR	1
				X201	PQVC01280N4Z	CRYSTAL OSCILLATOR	1
				CN201	PQJS10A82Z	CONNECTOR	1
						(RESISTORS)	
				R201	ERJ3GEYJ100	10	1
				R202	ERJ3GEYJ150	15	1
				R203	ERJ3GEYJ102	1K	1
				R204	ERJ3GEYJ153	15K	1
				R205	ERJ3GEYJ153	15K	1
				R206	ERJ3GEYJ563	56K	1
				R207	ERJ3GEYJ470	47	1
				R208	ERJ3GEYJ104	100K	1
				R209	ERJ3GEYJ272	2.7K	1

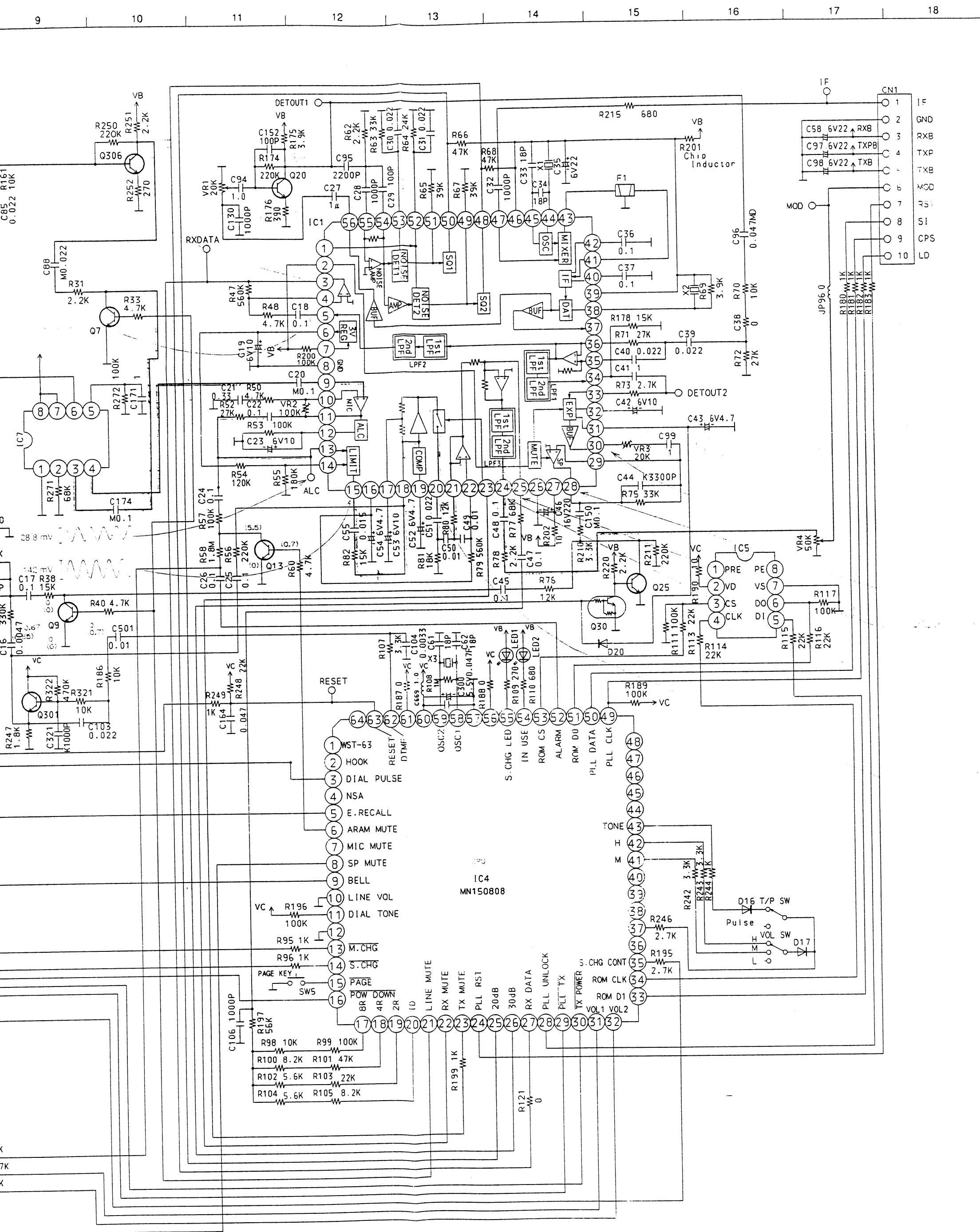
This replacement parts list is Denmark version only. Refer to the simplified manual (cover) for other areas.

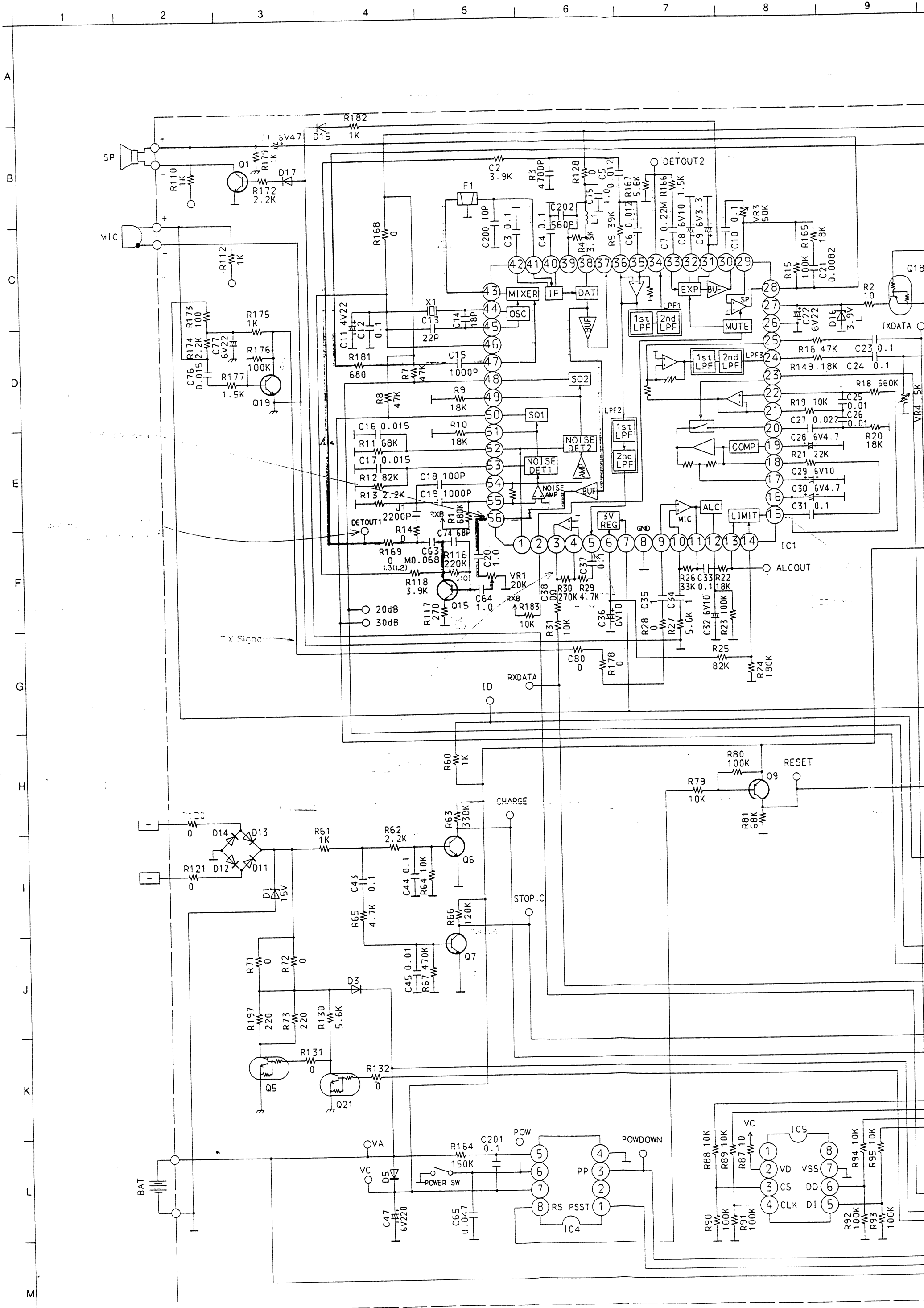
Ref. No.	Part No.	Value	Pcs/Set	Ref. No.	Part No.	Value	Pcs/Set
R210	ERJ3GEYJ104	100K	1	C220	ECUV1H020CCV	2P	1
R211	ERJ3GEYJ122	1.2K	1	C221	Not Used		
R212	ERJ3GEYJ561	560	1	C222	ECUV1H100DCV	10P	S 1
R213	ERJ3GEYJ470	47	1	C223	ECUV1H270JUV	27P	1
R214	ERJ3GEYJ104	100K	1	C224	ECUV1H270JUV	27P	1
R215	ERJ3GEYJ561	560	1	C225	Not Used		
R216	Not Used			C226	Not Used		
R217	Not Used			C227	ECUV1H102KBV	0.001	1
R218	ERJ3GEYJ000	0	1	C228	ECUV1H040CCV	4P	1
R219	ERJ3GEYJ123	12K	1	C229	ECUV1H102KBV	0.001	1
R220	ERJ3GEYJ470	47	1	C230	ECUV1H040CCV	4P	1
R221	ERJ3GEYJ100	10	1	C231	Not Used		
R222	ERJ3GEYJ103	10K	1	C232	ECUV1H102KBV	0.001	1
R223	ERJ3GEYJ683	68K	1	C234	Not Used		
R224	ERJ3GEYJ683	68K	1	C235	ECUV1H101JCV	100P	1
R225	ERJ3GEYJ470	47	1	C236	Not Used		
R226	ERJ3GEYJ470	47	1	C237	Not Used		
R227	ERJ3GEYJ100	10	1	C238	ECUV1H040CCV	4P	1
R228	ERJ3GEYJ561	560	1	C239	ECUV1H020CCV	2P	1
R229	ERJ3GEYJ560	56	1	C240	ECUV1H040CCV	4P	1
R230	ERJ3GEYJ563	56K	1	C241	ECUV1H102KBV	0.001	1
R231	ERJ3GEYJ153	15K	1	C242	ECUV1H102KBV	0.001	1
R232	ERJ3GEYJ153	15K	1	C243	Not Used		
R233	ERJ3GEYJ470	47	1	C244	ECUV1H102KBV	0.001	1
R234	ERJ3GEYJ100	10	1	C245	ECUV1H101JCV	100P	1
R235~239	Not Used			C246	ECUV1H020CCV	2P	1
R240	ERJ3GEYJ272	2.7K	1	C247	ECUV1E104ZFV	0.1	S 1
R241~259	Not Used			C248	Not Used		
R260	Not Used			C249	ECST0JX226	22	S 1
R261	ERJ3GEYJ000	0	1	C250	Not Used		
R262~269	Not Used			C251	ECUV1H102KBV	0.001	
R270	ERJ3GEYJ000	0	1	C252	ECUV1C224KB	0.22	1
				C253	ECUV1H562KBV	0.0056	1
				C254	ECUV1H562KBV	0.0056	1
				C255~259	Not Used		
				C260	Not Used		
				C261	Not Used		
				C262	ECUV1H101JCV	100P	1
				L205	ECUV1H101JCV	100P	1
		(CAPACITORS)					
C200	ECUV1H101JCV	100P	1				
C201	Not Used						
C202	ECST0JX226	22	S 1				
C203	PQCUV1C105ZF	1	1				
C204	ECUV1H101JCV	100P	1				
C205	ECUV1H332KBV	0.0033	1				
C206	ECUV1H472KBV	0.0047	1				
C207	ECUV1H332KBV	0.0033	1				
C208	ECUV1H332KBV	0.0033	1				
C209	ECUV1E104ZFV	0.1	S 1				
C210	ECUV1H103KBV	0.01	1				
C211	ECST0JX226	22	S 1				
C212	ECUV1H103KBV	0.01	1				
C213	ECUV1H101JCV	100P	1				
C214	Not Used						
C215	ECUV1H040CCV	4P	1				
C216	ECUV1H103KBV	0.01	1				
C217	ECUV1H270JCV	27P	1				
C218	ECUV1E104ZFV	0.1	S 1				
C219	Not Used						

This replacement parts list is Denmark version only. Refer to the simplified manual (cover) for other areas.

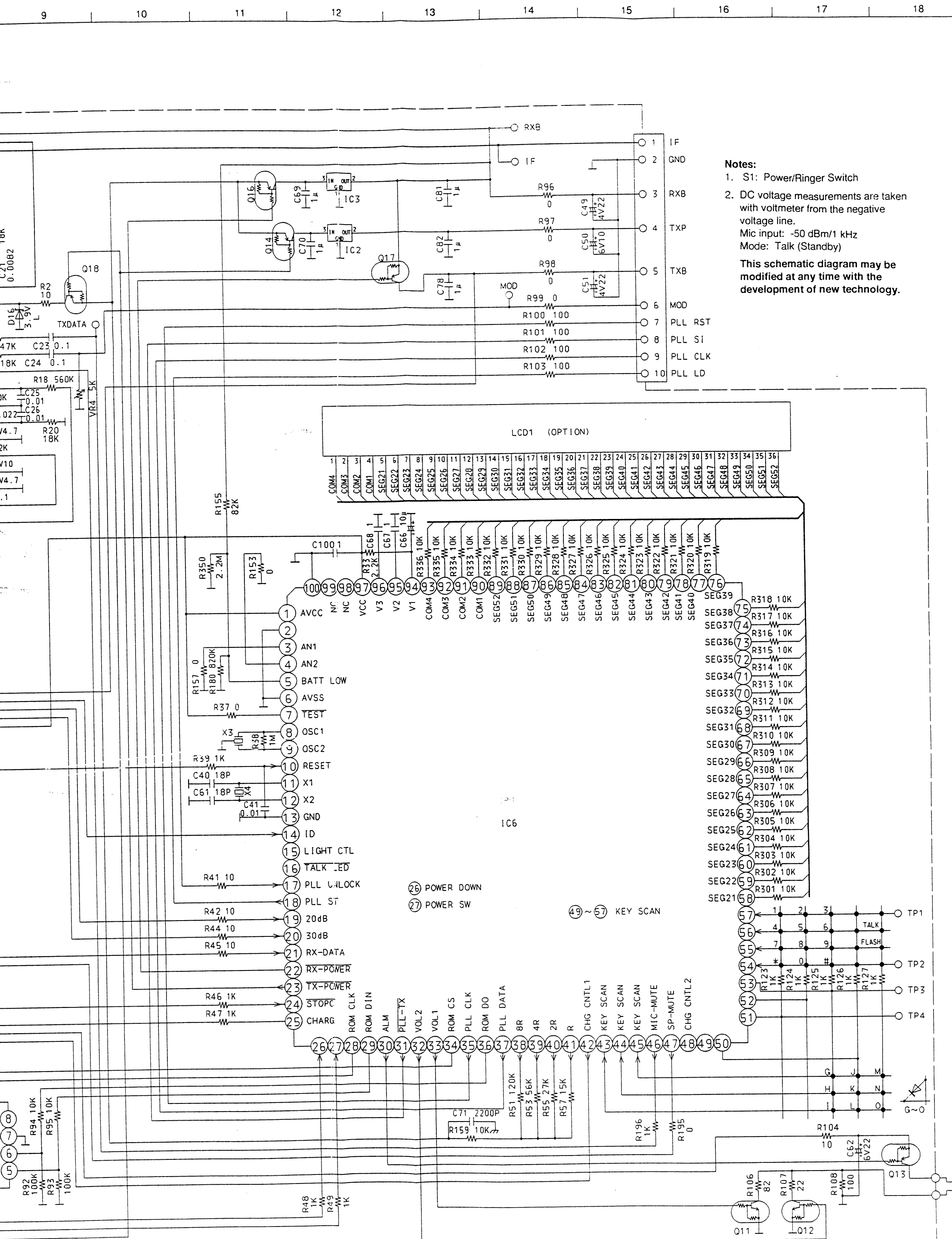
Ref. No.	Part No.	Part Name & Description	Pcs/Set
KX-T9310DM			
ACCESSORIES			
A1	KX-A35G-1	AC ADAPTOR	1
A2	PQJA10032Z	TELEPHONE CORD	1
A3	PQKC10003Z1	BELT CLIP	1
A4	PQKK10045Z1	BATTERY COVER (for BASE UNIT)	1
A5	PQKK10046Z1	BATTERY COVER (for PORTABLE UNIT)	1
A6	PQQX11657Z	INSTRUCTION BOOK	1
A7			
A8	PQQT11240Z	TEL CARD LABEL	1
PACKING MATERIALS			
P1	PQPP10076Z	PROTECTION COVER (for BASE UNIT)	1
P2	XZB10X25A02	PROTECTION COVER (for PORTABLE UNIT)	1
P3	PQPN10362Z	INNER BOX	1
P4	PQPN10363Z	ACCESSORY BOX	1
P5	PQPK12187Z	GIFT BOX	1
FIXTURE AND TOOL			
Z1	PQZZ10K13Z	EXTENSION CORD, 10P	2
Note: PQZZ10K13Z is neccessity for servicing.			







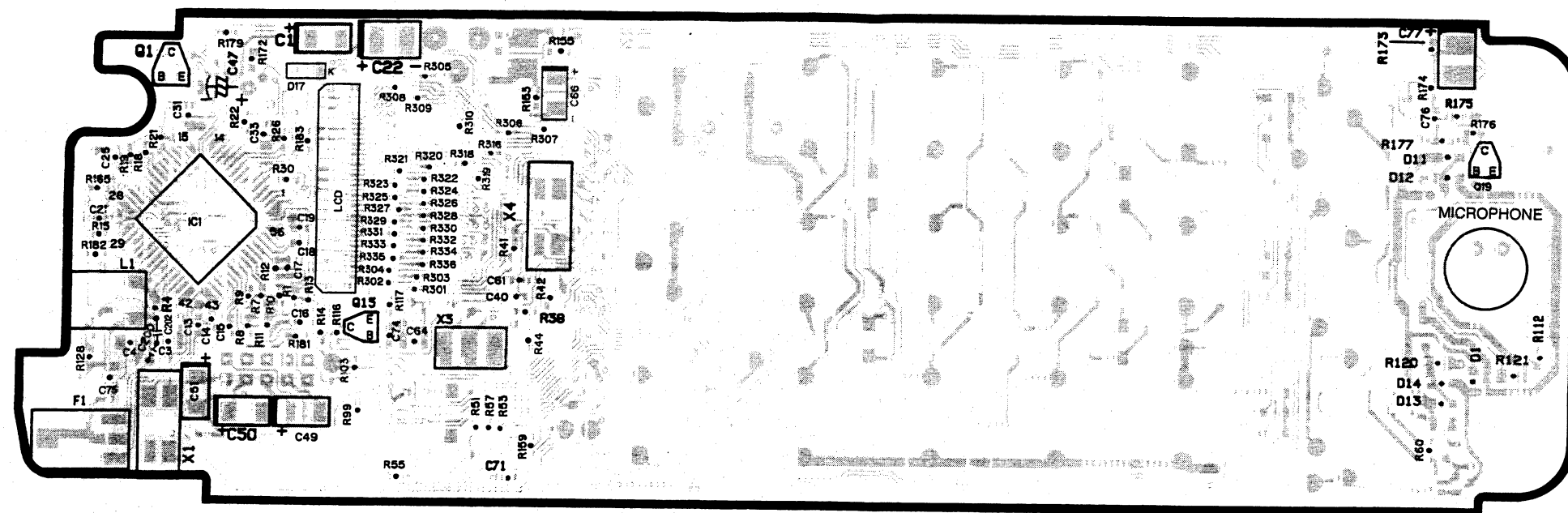
SCHEMATIC DIAGRAM (KX-T9300DMR)



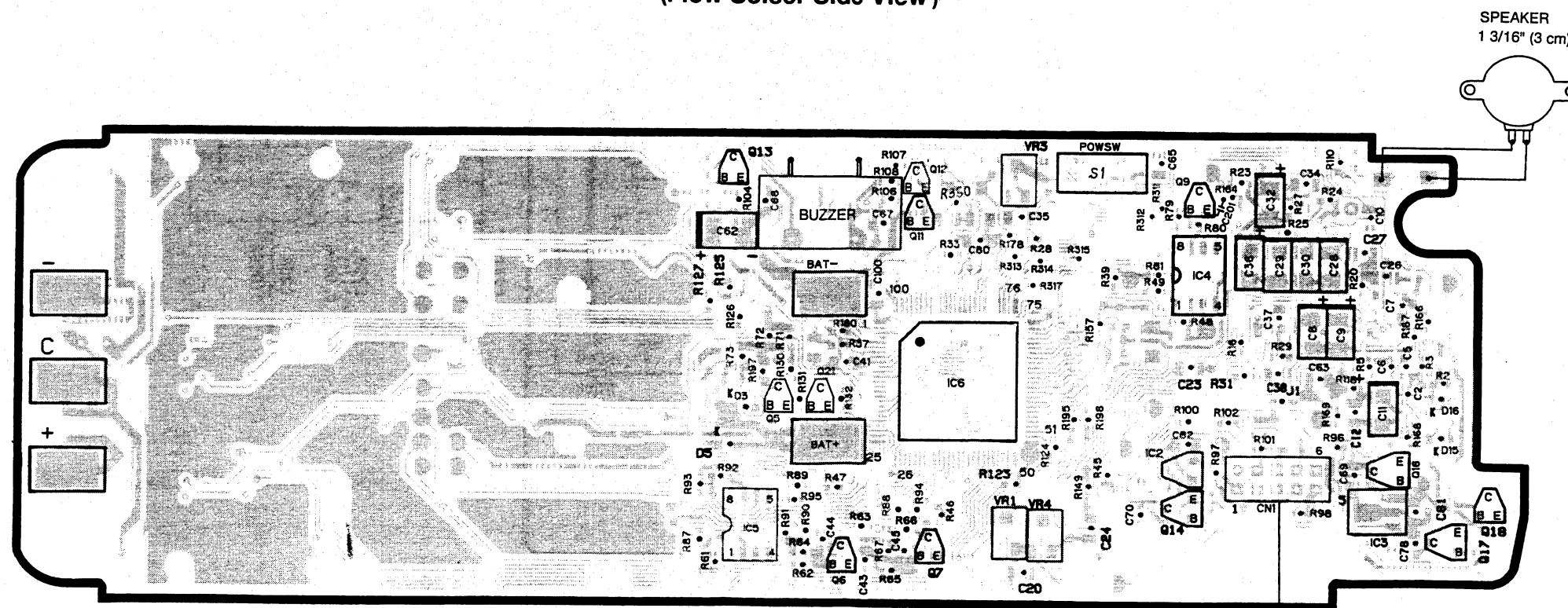
- Notes:**
1. S1: Power/Ringer Switch
 2. DC voltage measurements are taken with voltmeter from the negative voltage line.
Mic input: -50 dBm/1 kHz
Mode: Talk (Standby)
- This schematic diagram may be modified at any time with the development of new technology.

KX-T9300DM KX-T9300DM
CIRCUIT BOARD (KX-T9300DMR)

(Component View)

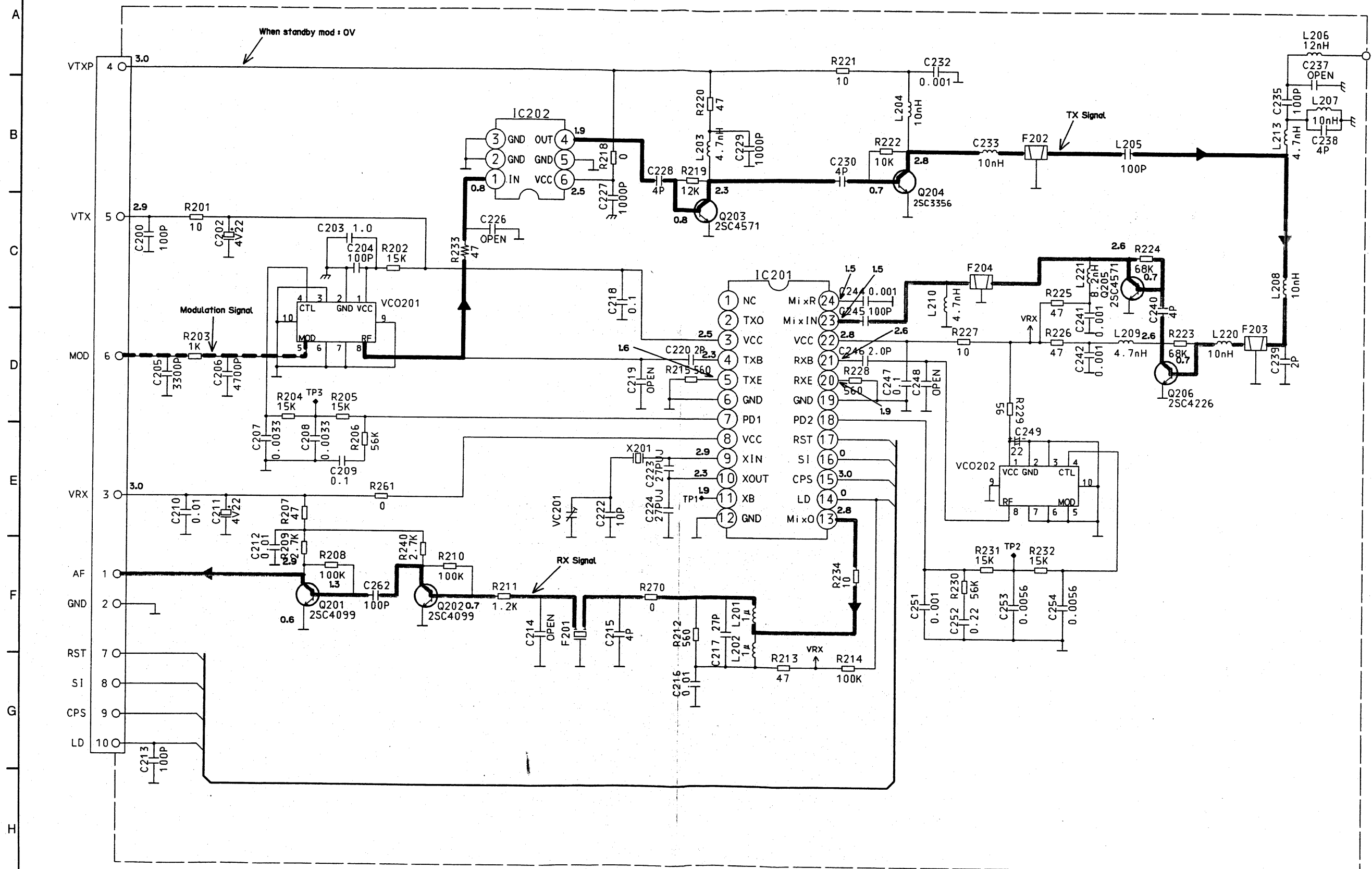


(Flow Solser Side View)



Refer to page 35

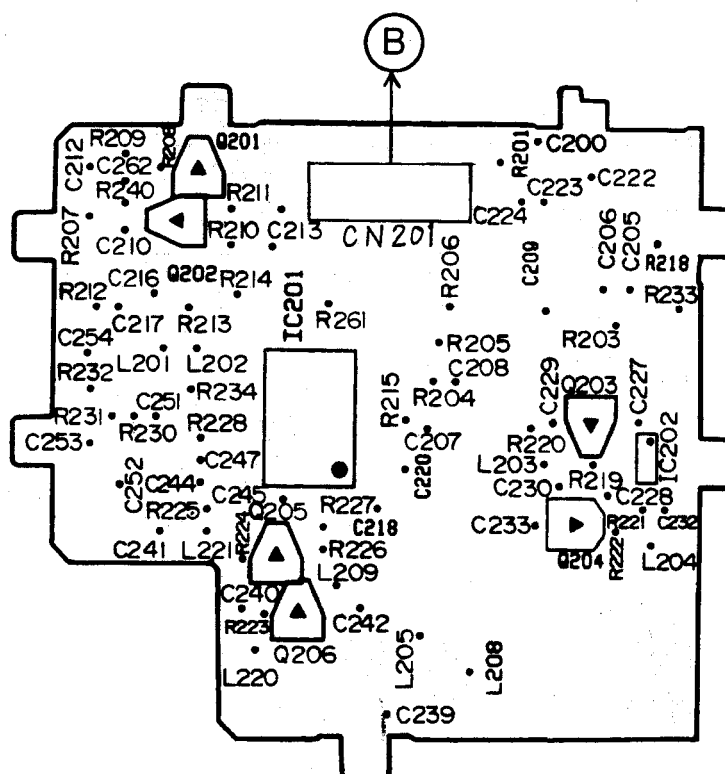
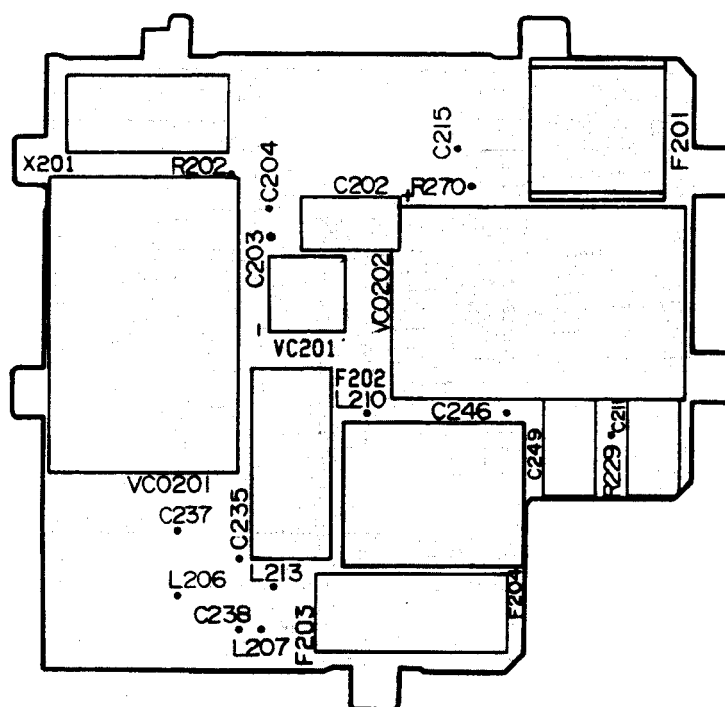
SCHEMATIC DIAGRAM (KX-T9300DMR) [RF UNIT]



CIRCUIT BOARD (KX-T9300DMR) [RF UNIT]

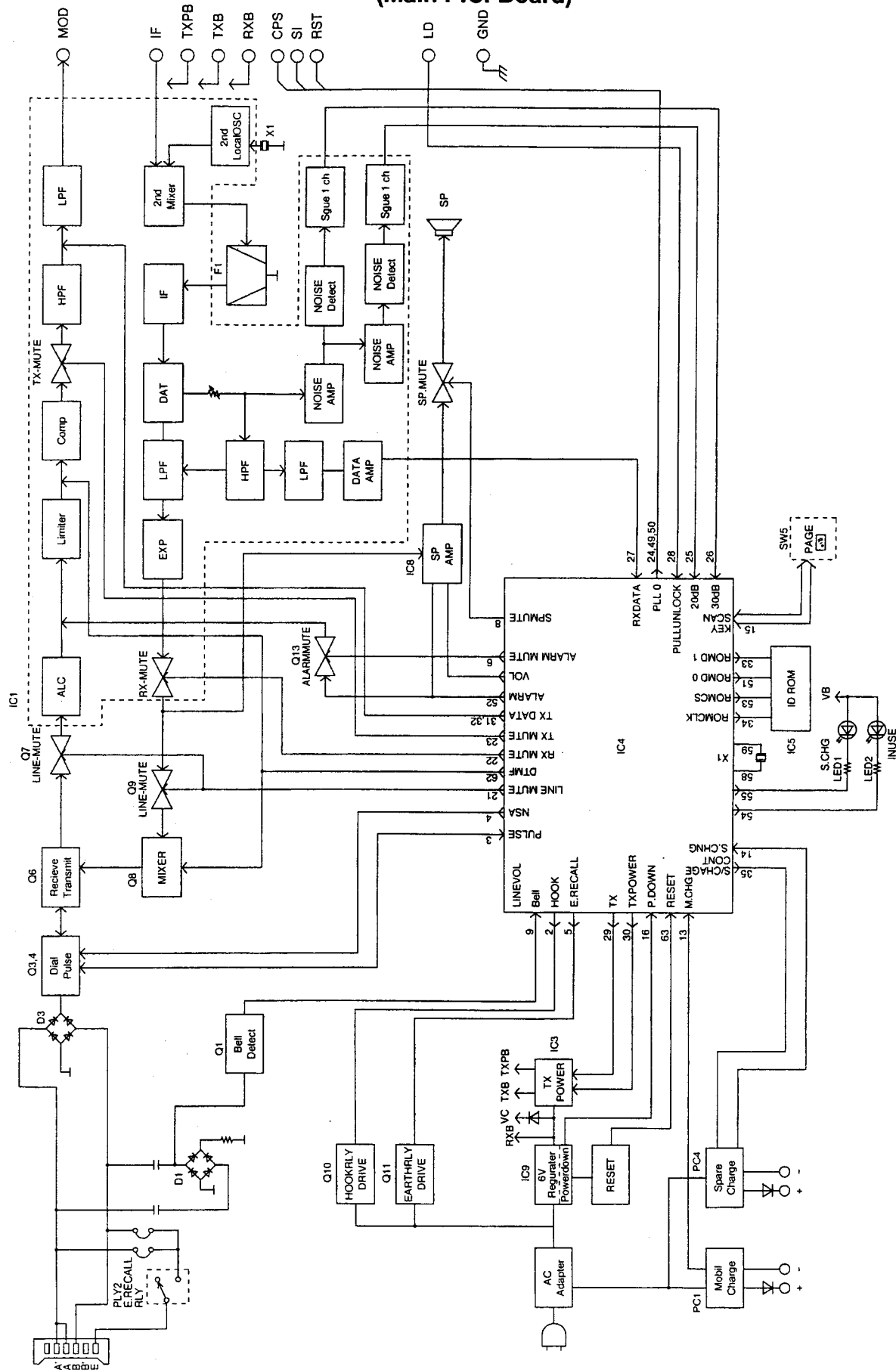
A
B
C
D
E
F
G
H

1 2 3 4 5 6



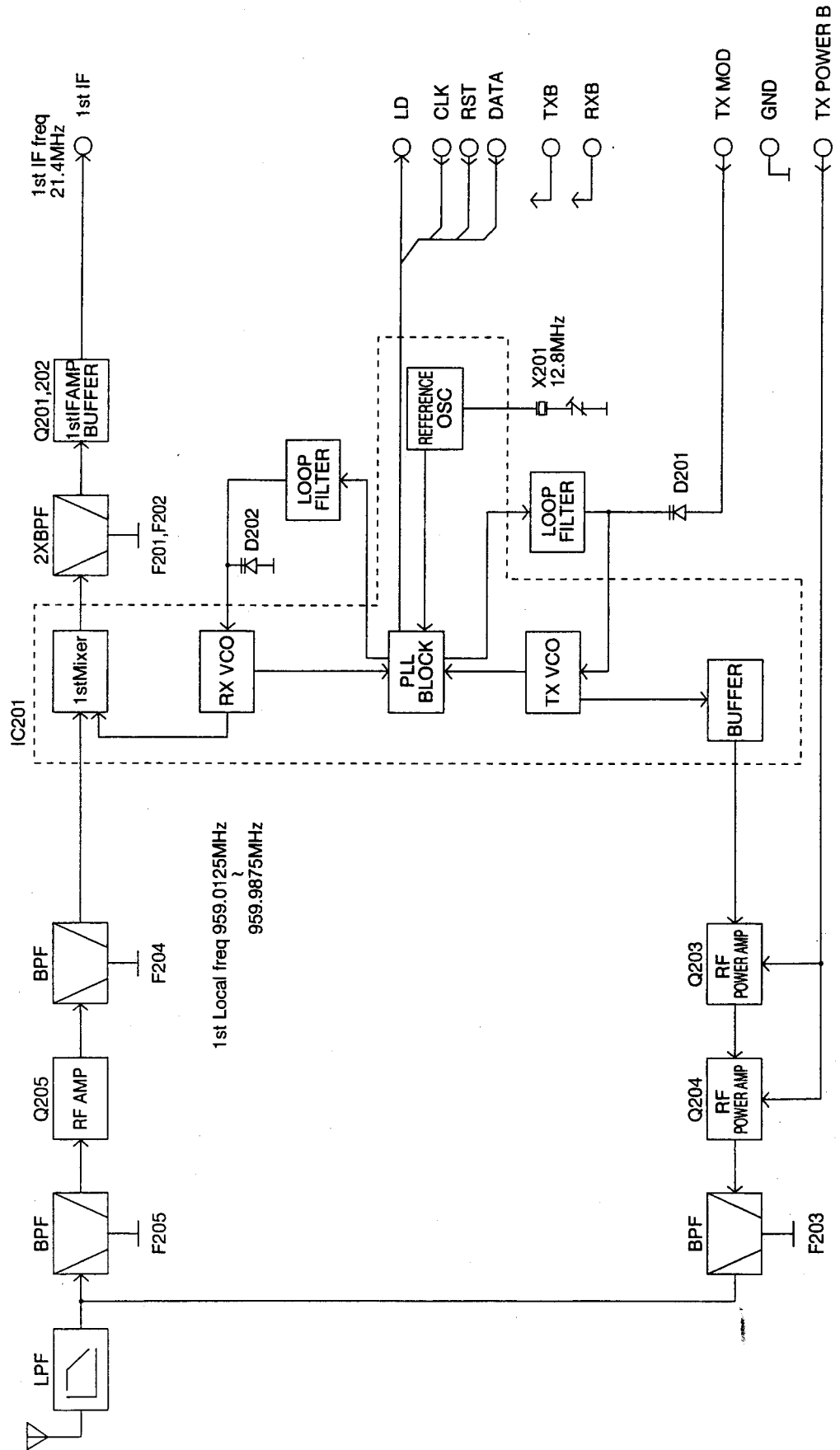
BLOCK DIAGRAM (KX-T9300DMH)

(Main P.C. Board)



BLOCK DIAGRAM (KX-T9300DMH) (RF Unit)

TX freq 959.0125MHz
959.9875MHz
RX freq 914.0125MHz
914.9875MHz



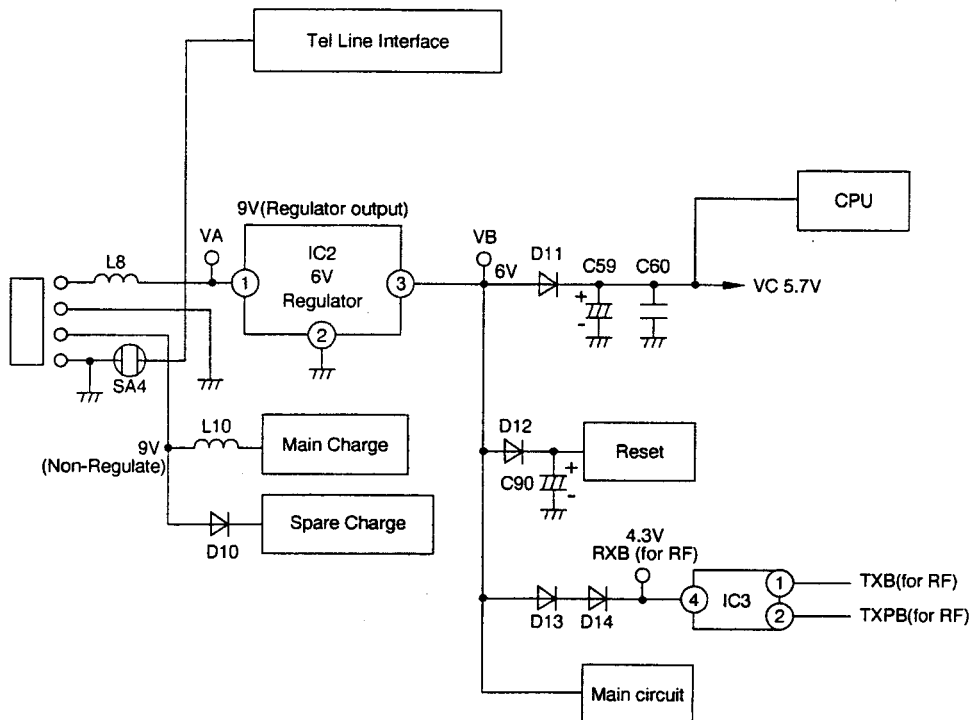
NEW CIRCUIT OPERATION (KX-T9300DMH)

Main Unit

1. Power Supply Circuit

The voltage DC 9 V (regulate output), DC 9 V (non-regulate output) are supplied to the DC jack from the AC adaptor. The 9 V regulate output is supplied to the line interface circuit and IC2 (6 V regulator). The voltage through IC2 is stabilized to 6 V is supplied to the reset circuit and main circuit. The power for CPU is supplied through D11 at 5.7 V. The power for RF unit is supplied through D13, D14 at 4.3V.

Circuit Diagram



2. Charge Circuit

2-1. Portable Handset Power Circuit

The Charge current flowing through L10 is supplied.

For detection of CHARGE, the voltage fluctuation of R85 is detected by PC1 and then CHARGE is judged by pin ⑬ of the CPU IC4 after it flows through PC1.

Charged → IC4 pin ⑬ Low

Not Charged → IC4 pin ⑬ High

2-2. Spare Charge Circuit

The spare charge current flows through D10 and then recharged.

The spare charge is detected by PC3 and judged by pin ⑭ of the CPU IC4.

Charged → IC4 pin ⑭ Low

Not Charged → IC4 pin ⑭ High

15 hours after it is charged, the trickle charge mode is set. At this time, PC4 is turned OFF, Q19 is turned OFF, and the current does not flow through R92 to suppress the recharging current.

3. Bell Detector Circuit

When the Bell signal is input between A/B, the signal of which waveform is shaped through C2 → R2 → Q1 is input to pin ⑨ of the CPU IC4.

When the CPU detects the Bell signal, pin ⑤⑨ repeats High/Low fluctuation and then LED2 in use is flashed.

At this time, if the portable handset is charged, the base unit's ringer is on.

If the portable handset is not charged, the data signal generated by pins ⑰ – ⑳ of the CPU is sent to the portable handset through RF and then the portable handset's ringer is on.

4. Line Interface

The line is looped when pin ③ of the CPU becomes High and Q4 and Q3 are ON. The looped current flows through A → D3 → Q3 → Q6 → R24 → R25 → R26 → D3 → B.

5. Reception Voice Switch

The received voice signal is input to pin ⑨ of IC1 (microphone AMP input) through Q6, Q18 from the line, and flows through pin ⑬ (limiter AMP input), pin ⑱ (compounder input) and pin ㉑ (high-pass filter input), then through the IC's low-pass filter of IC1 (that cuts off 4 kHz), and is output to the RF unit.

The alarm, DTMF monitoring, and data signals are input to pin ㉓ of IC1 through the resistors and capacitors from each microcomputer's ports, and output to the RF unit in the same way.

6. Sending-Speech-Signal

The signal received on the RF unit is input to pin ㉔ of IC1 as the 21.4 MHz IF signal, and output from pin ㉖ as the 455 kHz IF signal in the mixer circuit inside IC1. This signal is demodulated by passing through the F1 (455 kHz band pass filter) and output from pin ㉞ as audio signal.

The demodulated audio signal is input to pin ㉞, flows through the LPF (that cuts off 4 kHz) in IC and amplified through the expander, and then output to the line through Q8 from pin ㉠.

7. DTMF Signal

When the DTMF data from the portable handset is received, the DTMF signal is output from pin ㉡ of the CPU and sent to the line through Q8.

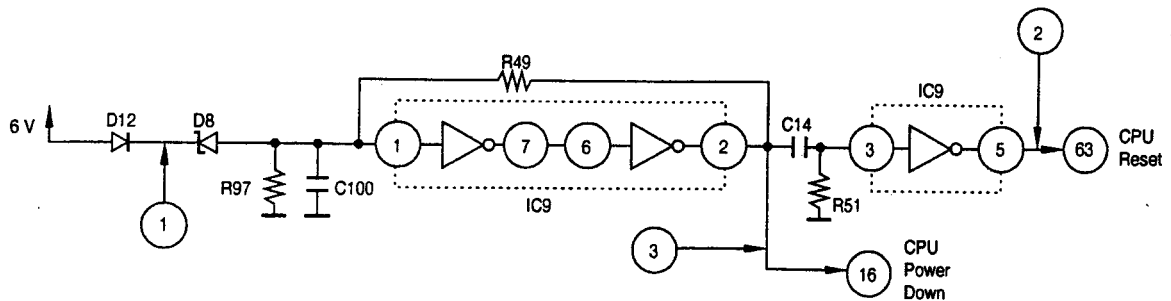
8. RX Data Processing

The received RX data is demodulated like the speech signal, output from pin ㉞ of IC1 and sent through the LPF (4 kHz) from pin ㉞. Then it is output from pin ⑤, amplified by the Data AMP of pins ③ and ④, input to pin ㉟ of the CPU and then detected.

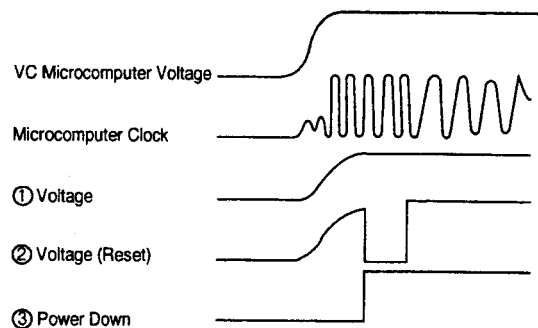
9. Reset Circuit

After the power supply to work is put, the voltage at point ① is raised to the same level of the microcomputer. However, since D8 is 3.3 V Zener, the voltage of RESET stays Low until D8 is turned ON. When D8 is ON, the Power Down becomes High, is done differential calculus by C14, the output of the RESET becomes Low for about 20 ms, then the RESET is activated.

Circuit Diagram



Timing Chart



10. Electric Field Detection Circuit

The electric field detection circuit consists of the noise amplifier and noise detection circuit. This checks if there is electric field using the comparators (SQ2 and SQ1).

The received signal is amplified by the noise amplifier of IC1 (54) and (55) and if there is much noise, the output of SQ1 and SQ2 becomes High and the CPU judges that there is no electric field.

If there is less noise, the output of SQ1 and SQ2 becomes Low and the CPU judges that there is electric field.

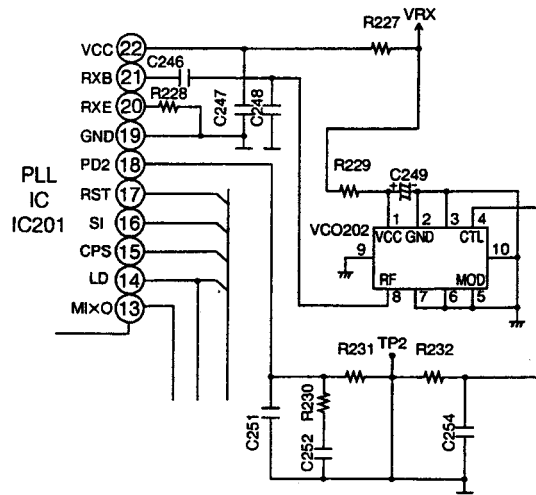
The 20 dB μ V/m circuit (SQ2) is used for judging squelch. The 30 dB μ V/m circuit (SQ1) is used for weak electric field alarm.

RF Unit

1. Receiver VCO Circuit

This circuit consists of VCO202 (VCO module). The control voltage of pin ⑮ of PLL IC is applied to ④ terminal of VCO202 and the oscillation frequency is controlled. The oscillation frequency in the band of 900 MHz is applied to pin ⑮ of PLL IC from ⑮ terminal of VCO201.

Circuit Diagram



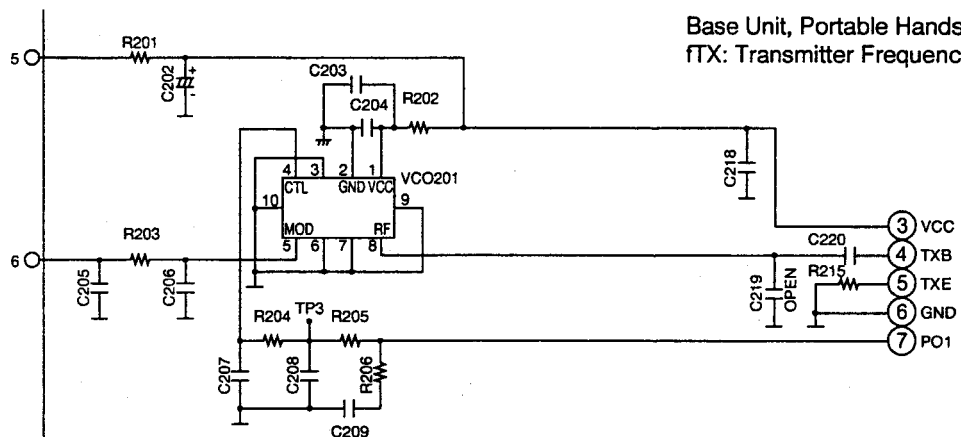
Base Unit: $f_{VCO} = f_{RX} - 21.4 \text{ MHz}$
 Portable Handset: $f_{VCO} = f_{RX} + 21.4 \text{ MHz}$

f_{RX} : Receiver Frequency
 f_{VCO} : VCO Oscillation Frequency

2. Transmitter VCO Circuit

This circuit consists of VCO201 (VCO module). The control voltage of pin ⑦ of PLL IC is applied to ④ terminal of VCO201 and the oscillation frequency is controlled. The oscillation frequency in the band of 900 MHz is applied to pin ④ of PLL IC from ④ terminal of VCO201.

Circuit Diagram



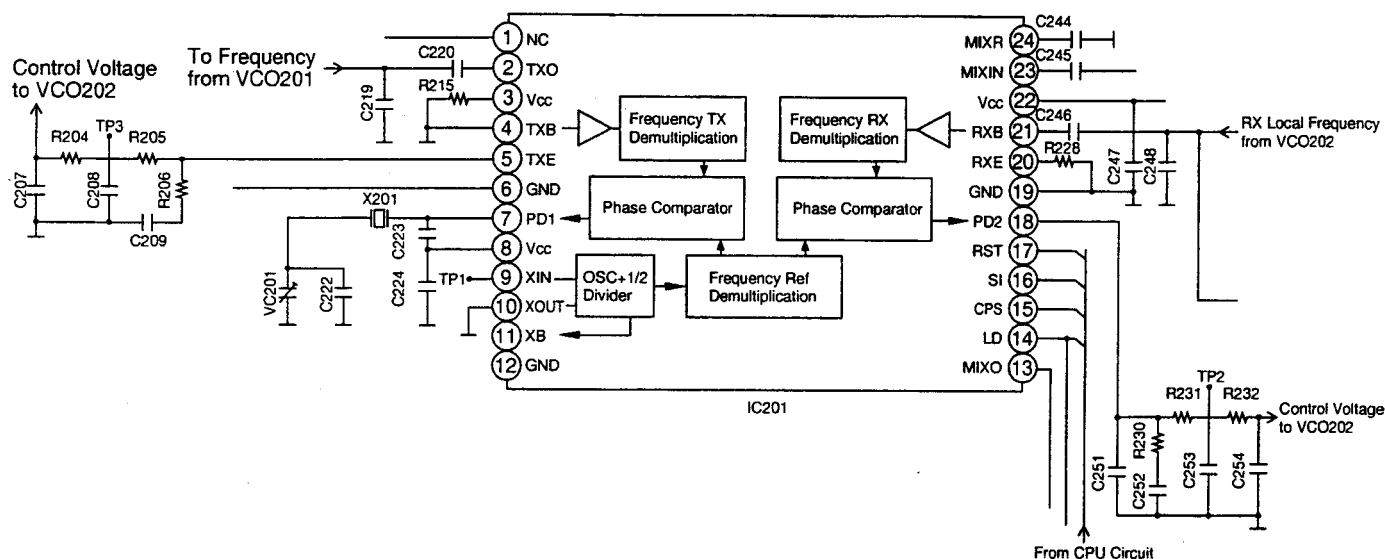
Base Unit, Portable Handset: $f_{VCO} = f_{TX}$
 f_{TX} : Transmitter Frequency

3. PLL Circuit

IC201 includes two PLL circuits for transmission frequency and reception local frequency.

The frequency in the band of 900 MHz supplied from TX VCO and RX VCO, and Ref. OSC frequency (12.8 MHz) are divided into 12.5 kHz frequency controlled by the CPU. The phases of the frequency from TX and RX and the reference frequency are compared each other, the control voltage is supplied to the VCO circuit from pins ⑦ and ⑱ so that the desired TX and RX frequencies are provided. The VCO control signal (TX, RX frequency setting) of the PLL circuit is supplied to CPS pin ⑮, SI pin ⑯ and RST pin ⑰ from the CPU circuit. Also, the locked oscillation frequency of the VCO circuit is supplied to the CPU from pin ⑭ at "L".

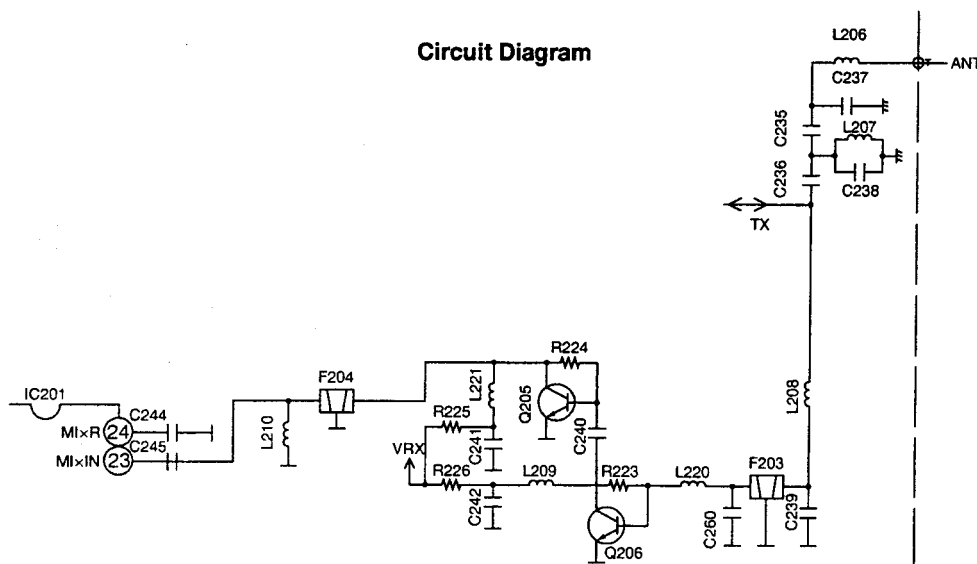
Circuit Diagram



4. Receiver RF Circuit

The electric wave received from the antenna is attenuated by the SAW filter F203 except the received frequency band. Then it is amplified by the RF amplifier Q206 and Q205, and supplied to the IC201 pin ⑳ (MIXER input).

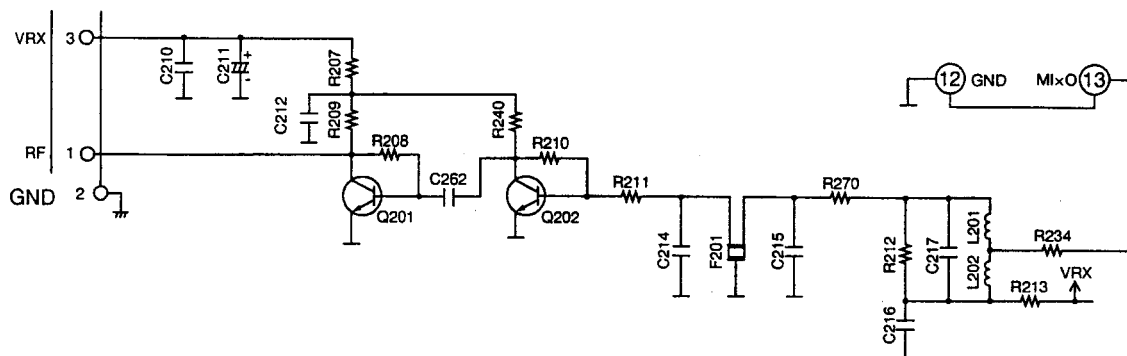
Circuit Diagram



5. MIXER, IF Circuit

The signal in the received frequency band supplied to IC201 pin ③ (MIXER input) is converted to 21.4 MHz of the 1st IF by the received local signal in the MIXER circuit, and output to pin ③ of MIXO. The resonance circuits of C217, L201 and L202 are resonated to 21.4 MHz. The 21.4 MHz IF signal becomes an element of the ± 4.5 kHz band width by the MCF, F201, and is supplied to IF amplifier Q202 and Q201.

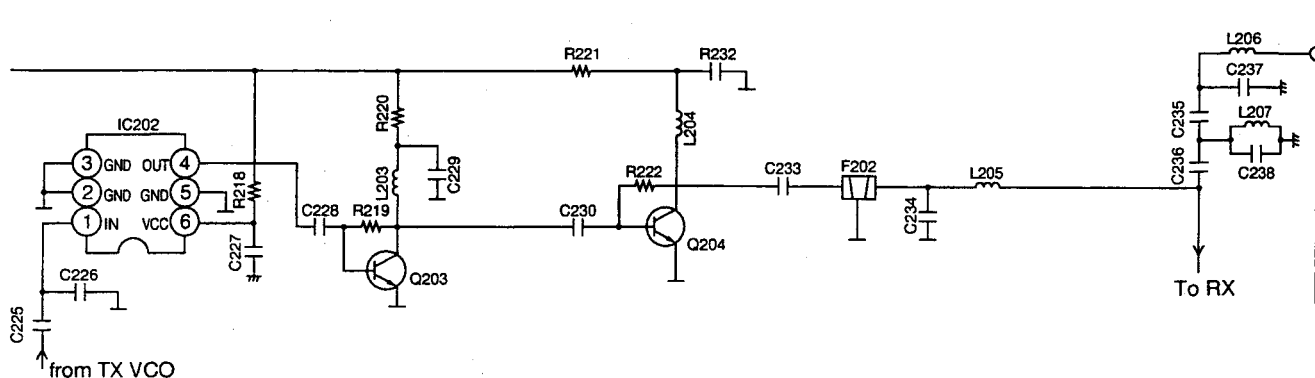
Circuit Diagram



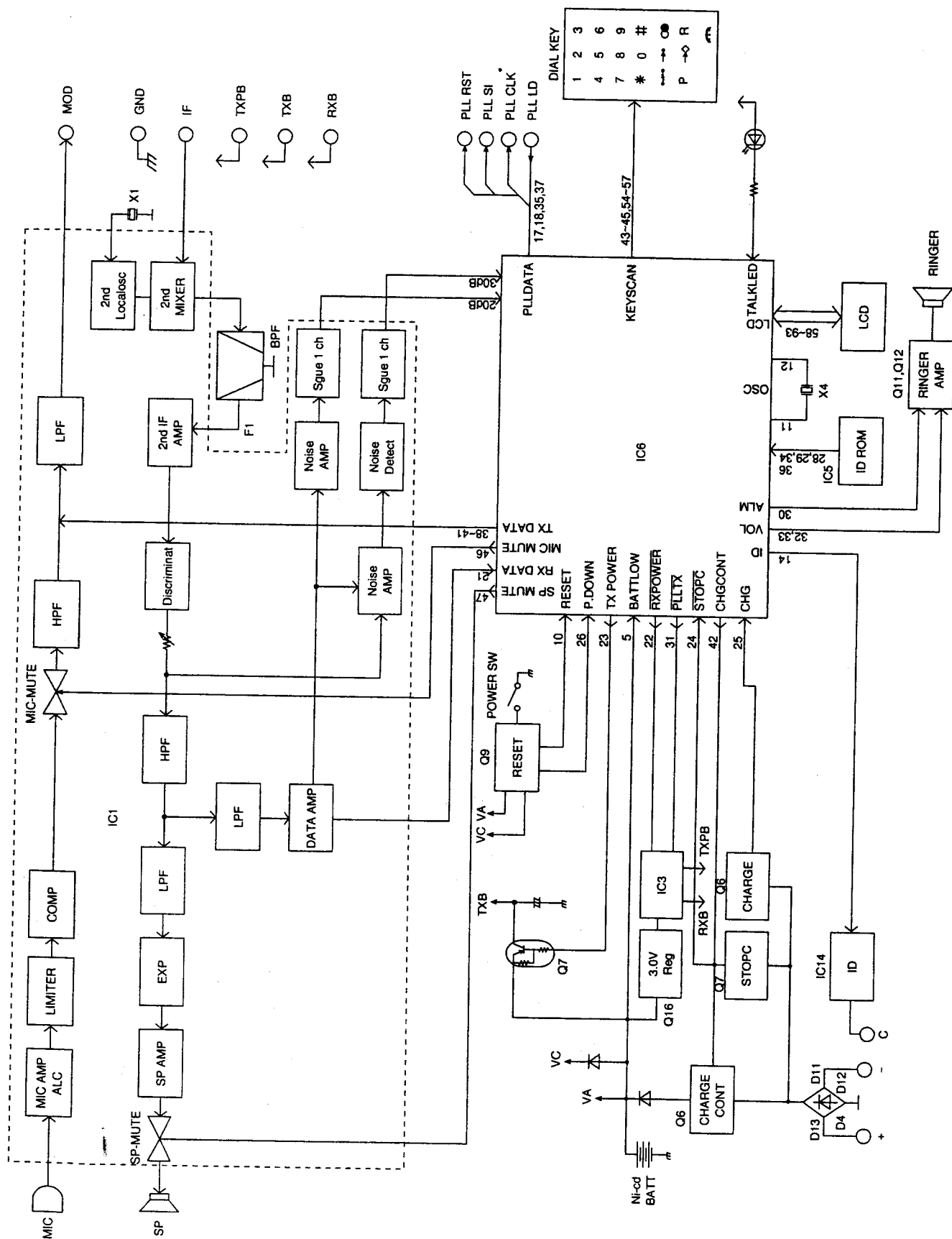
6. TX Power Circuit

The TX VCO output signal flows through the buffer IC202 and it is supplied to the TX Power Amp., Q203 and Q204. The received signal is attenuated by the band pass filter F202 except its received frequency band. Then it is supplied to the antenna without having any influence on the Receiver RF circuit.

Circuit Diagram

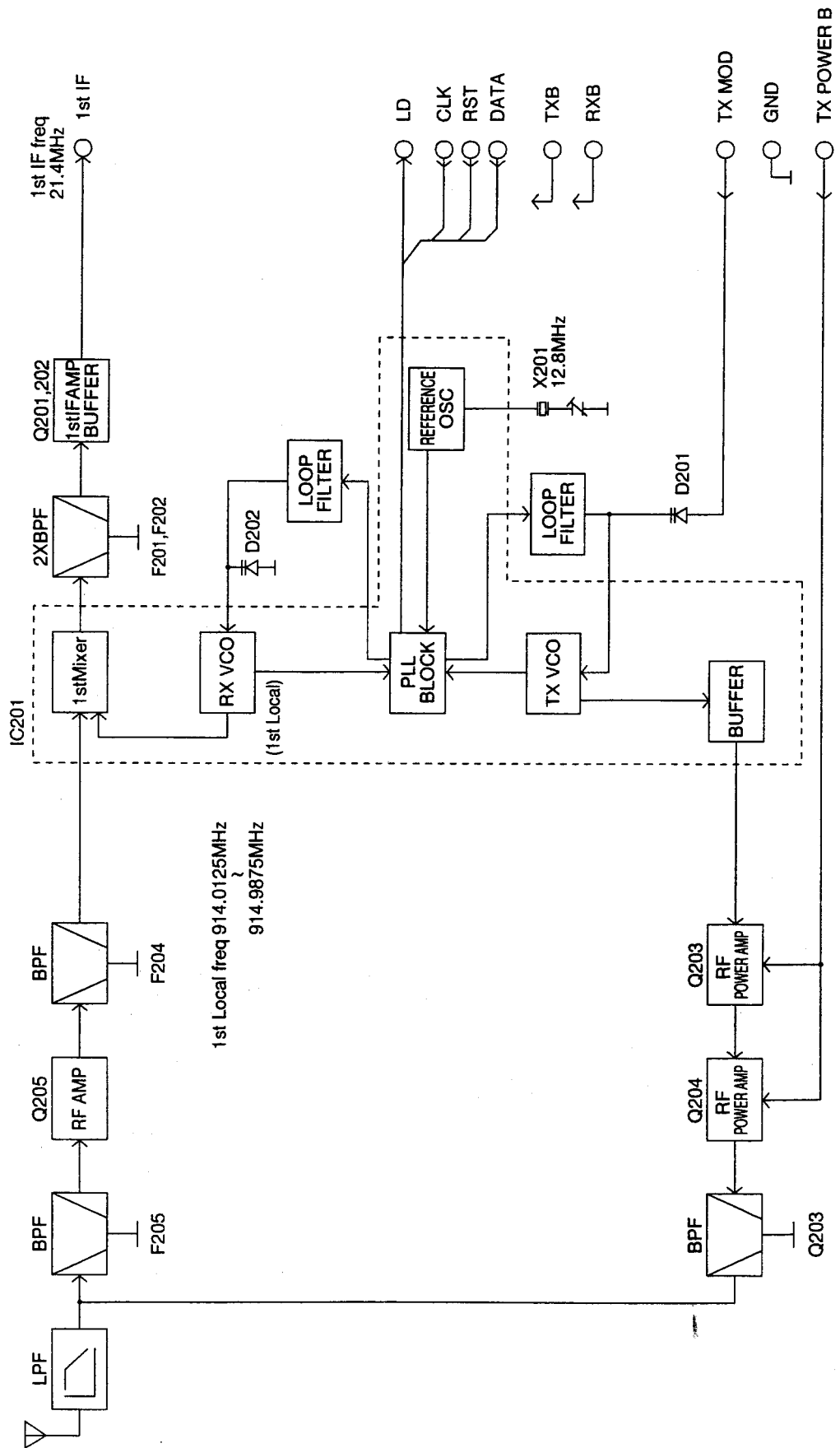


BLOCK DIAGRAM (KX-T9300DMR) (Main P.C. Board)



BLOCK DIAGRAM (KX-T9300DMR) (RF Unit)

TX freq 914.0125MHz
914.9875MHz
RX freq 959.0125MHz
959.9875MHz



NEW CIRCUIT OPERATION (KX-T9300DMR)

RF Unit Section

Refer to pages 39~41. (Common use to Base Unit)

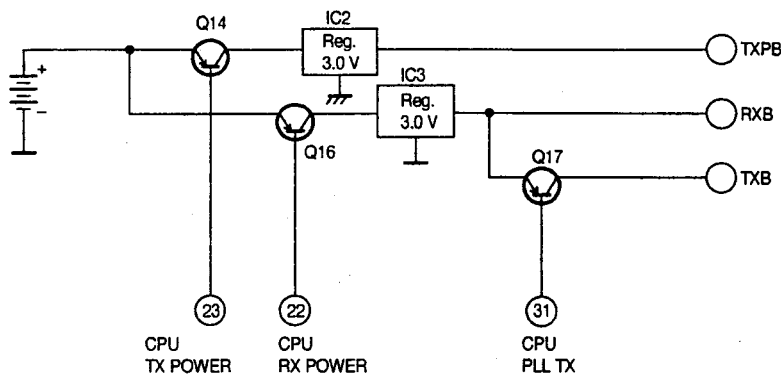
Main Unit

1. RF Transmission/Reception Power Supply Circuit

The power source for transmission is switched on and off by the CPU that controls Q14 and Q16 for battery current. It is stabilized to the constant voltage by the 8 V regulator and supplied to the RF unit and IF IC. In the standby mode, Q16 is switched ON and 3 V is supplied to the RXB via IC3 only when pin ② becomes Low.

In the TALK mode, when pins ② and ③ are set to Low and Q16 and Q17 is switched ON, approx. 3 V is supplied to the RXB and TXB. And then, pin ③ is set to Low, Q14 is ON and 3 V is supplied to the TXPB via IC2.

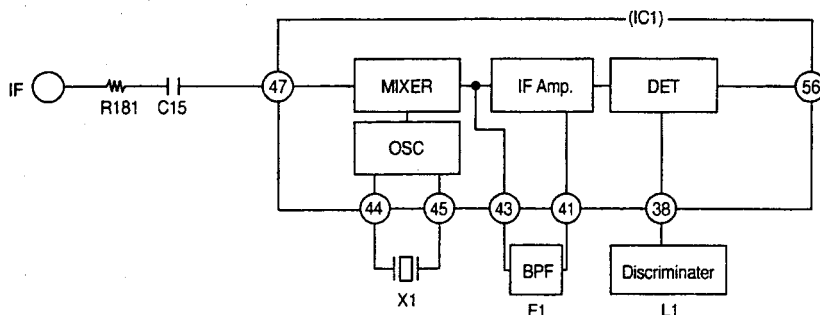
Circuit Diagram



2. IF Reception Section

The 21.4 MHz IF signal in the band width of ± 7.5 kHz that was received by the RF unit is input to pin ④⑦ of IC1. It is mixed with the 2nd local frequency of 20.945 MHz and then filtered by F1 so that the 2nd IF frequency of 455 kHz is supplied to the IF Amp. of IC1. The 2nd IF signal is demodulated by the wave detector of IC1 and sent to pin ⑤⑥ as the audio signal.

Circuit Diagram



3. Electric Field Detection Circuit

The electric field detection circuit that consists of the DET Amp., IC1's noise filter, integration circuit and comparator detects the electric field by checking noise.

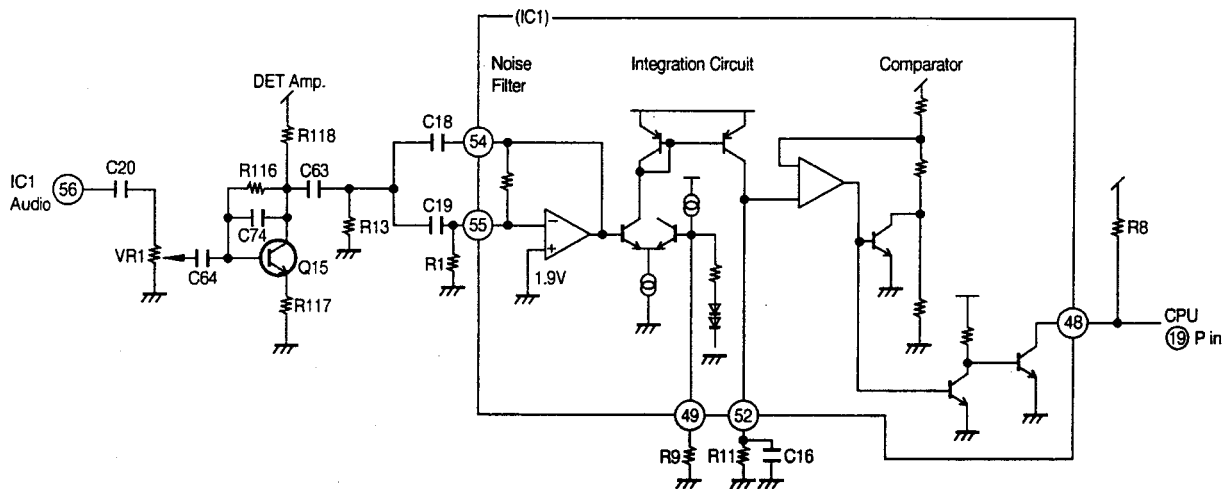
The audio signal output from pin ⑤⑥ extracts noise of approx. 18 kHz by the noise filter of IC1 after it is amplified by the DET amplifier. After the noise is converted to the De voltage in the integration circuit, it is input to the comparator to gain High and Low outputs.

Pin ④⑨ decides the sensitivity of the integration circuit and pin ⑤② decides the time constant.

In the strong electric field, the De voltage of pin ⑤② is 0.5 V or less, pin ④⑧ outputs Low.

In the weak electric field, the De voltage of pin ⑤② is approx. 1 V, pin ④⑧ outputs HIGH.

Circuit Diagram

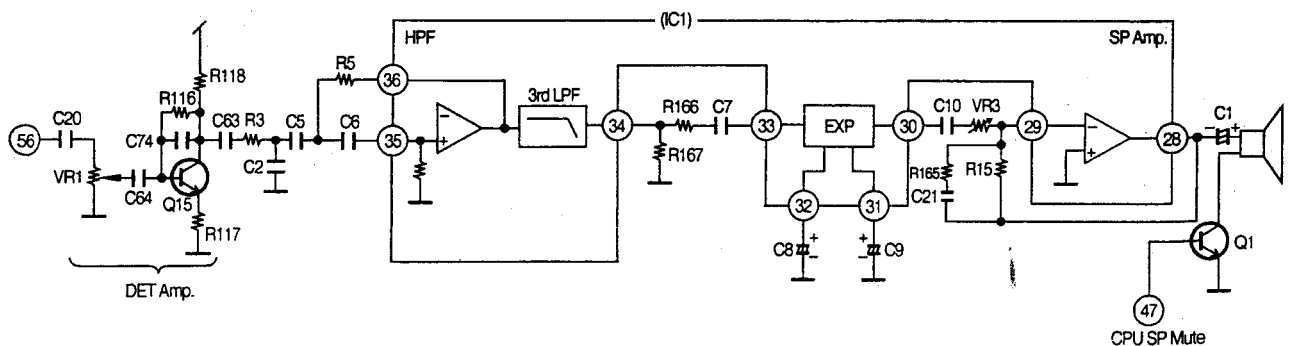


4. Received Data Circuit

The RX Data circuit consists of the HPF, LPF and Data Amp.

The received RX data is output to pin ⑤⑥ of IC1 as the audio signal. The data frequency is digital signal of 600~2000 Hz. The data signal output from pin ⑤⑥ is output from pin ⑤ as signal of 100~4000 Hz through the HPF of pins ③ and ④ and the LPF in IC1. And then it is amplified in the data amplifier of pins ③⑤ and ③⑥ and detected after it is sent to pin ②① of the CPU.

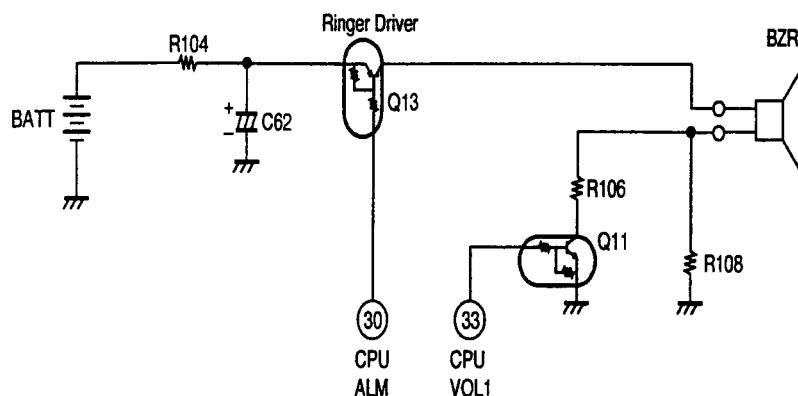
Circuit Diagram



5. Ringer Circuit

When the Ring signal is received with the power switch of the portable handset ON, the ringer is activated. When the ring signal is received, pin ③③ is set to High. After Q11 is turned ON, Q13 is switched on by the ringer frequency in pin ③① and then the buzzer is ON.

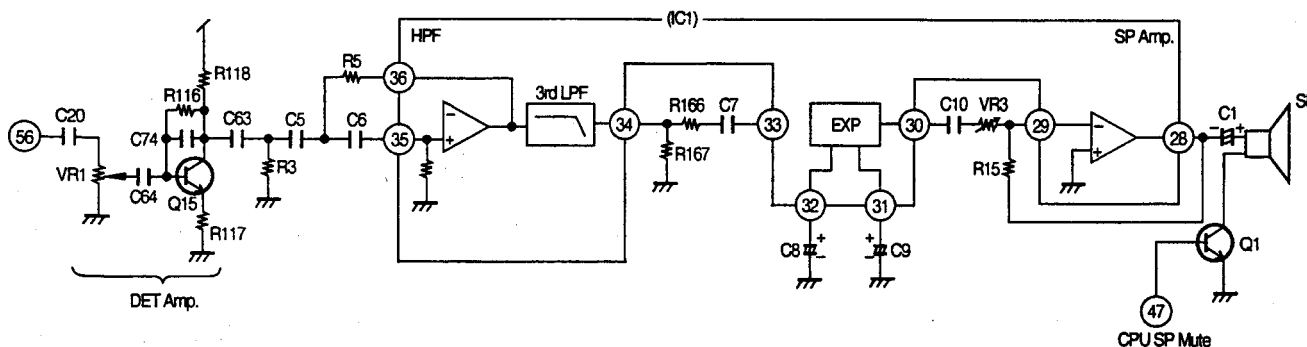
Circuit Diagram



6. Reception Signal Circuit

The reception circuit consists of the DET amplifier, and IC1's HPF, LPF, Expander and SP amplifier. The received voice signal is output to pin ③④ as an audio signal of 200-2400 Hz via the HPF and LPF of IC1 to eliminate unnecessary elements, after it is amplified by the DET amplifier just the same way for the RX data. The amplified received voice signal is input to the expander from pin ③③ because it is the demodulated signal compressed in the base unit. The expanded signal is output to pin ③① and it is amplified by the SP amplifier of pins ②⑧ and ②⑨, and sent to the SP. The transistor Q1 for SP muting functions when it is set to ON while the SP is on. If SP muting mode is selected, Q1 functions when it is set to OFF. Therefore, the CPU controls pin ④⑦ when HIGH is output with the SP on, and LOW is output during muting mode.

Circuit Diagram

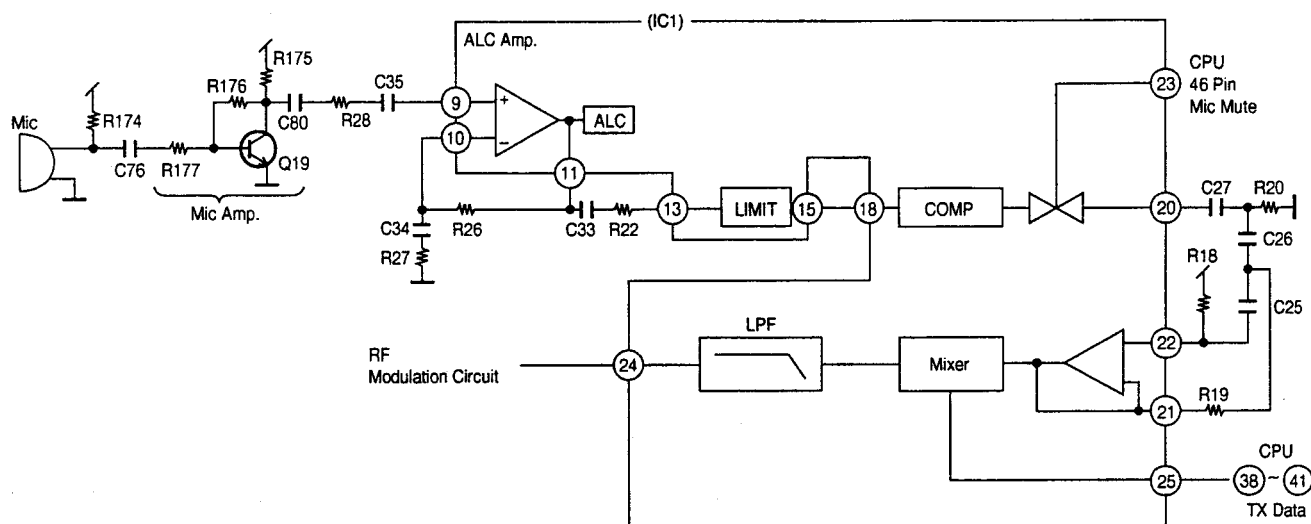


7. Sending Signal

The received voice signal from the microphone is amplified in the microphone amplifier of Q19 and input to the ALC amplifier of IC1. The ALC circuit prevents the received voice signal from being distorted when a large volume signal is input from the microphone. If an input signal level becomes beyond the previously set one, the circuit reduces the Amp. gain in order not to fluctuate the output level by strong input. The LIMIT circuit clips strong signals that are leaked from ALC filtering. The transmitted voice signal output from pin ⑮ is input to the compressor from pin ⑱ and amplified. Then, it flows through the MUTE circuit and output to pin ⑳. This circuit controls the CPU when the signal is Low during calling and High during muting mode. The transmitted voice signal through the MUTE circuit is input to the HPF of pins ㉑ and ㉒, and sent to the Mixer circuit in IC1.

The Mixer circuit mixes the TX data from the CPU with the transmitted voice signal (however, Mic. Mute mode is activated during TX data transmission). Finally, the Mixer output flows through the LPF of 4 kHz cut-off frequency and it is output from pin ㉔, then sent to the RF modulator.

Circuit Diagram



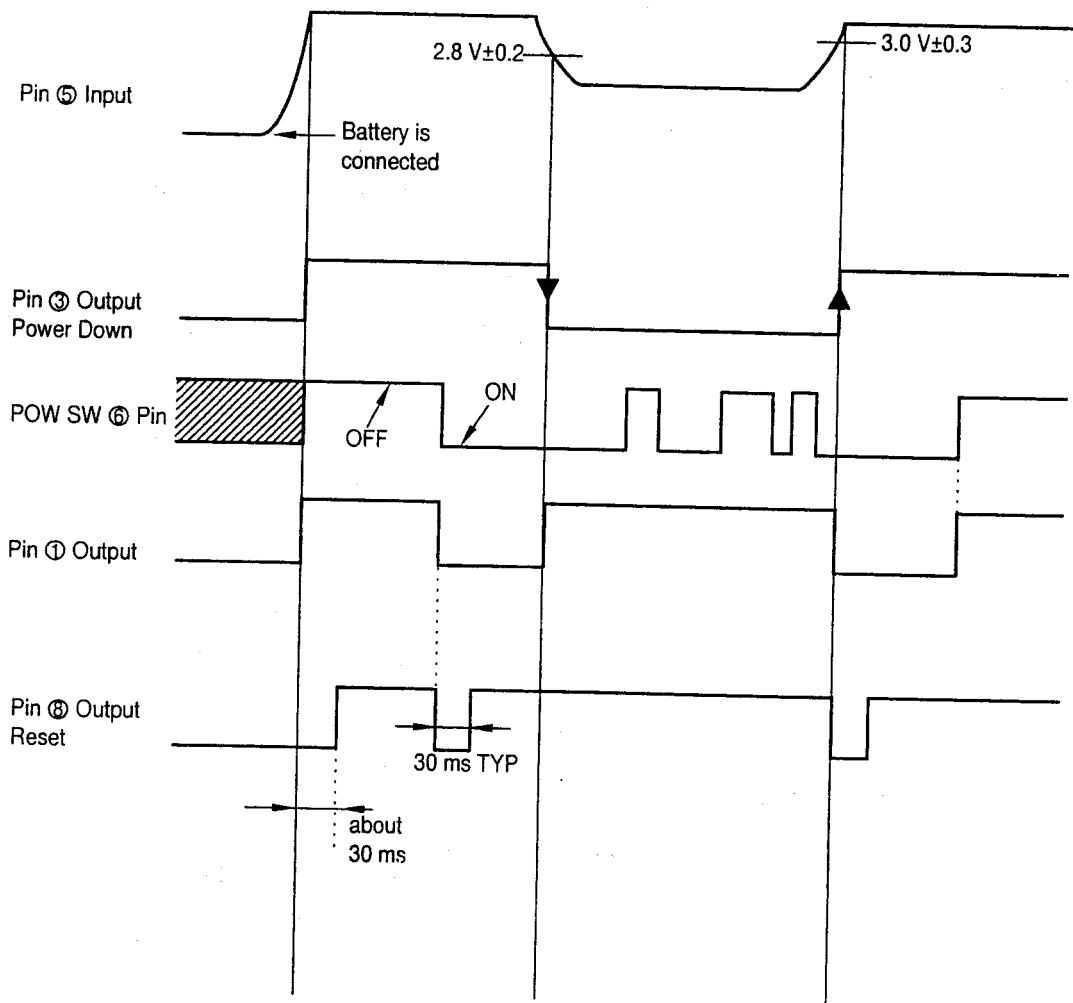
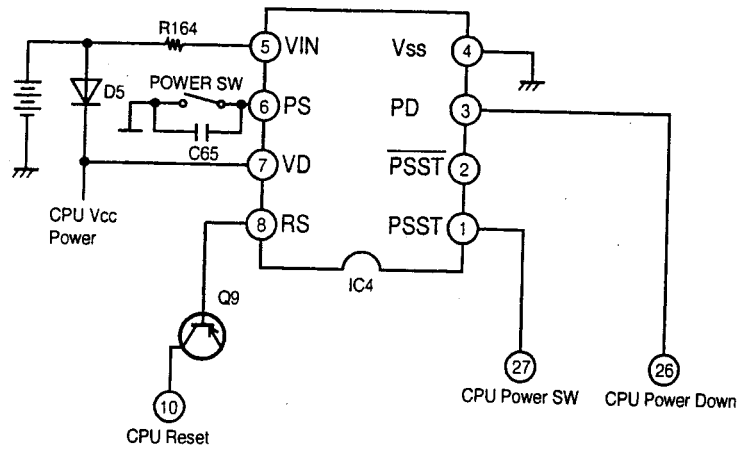
8. Reset Circuit, Power Down Circuit, Power ON/OFF Circuit

IC4 detects RESET, POWER DOWN and POWER ON/OFF.

C65 is designed to avoid the power switch chattering.

R164 is used for Power Down voltage setting. The Power is down at approx. 3.4V.

Circuit Diagram

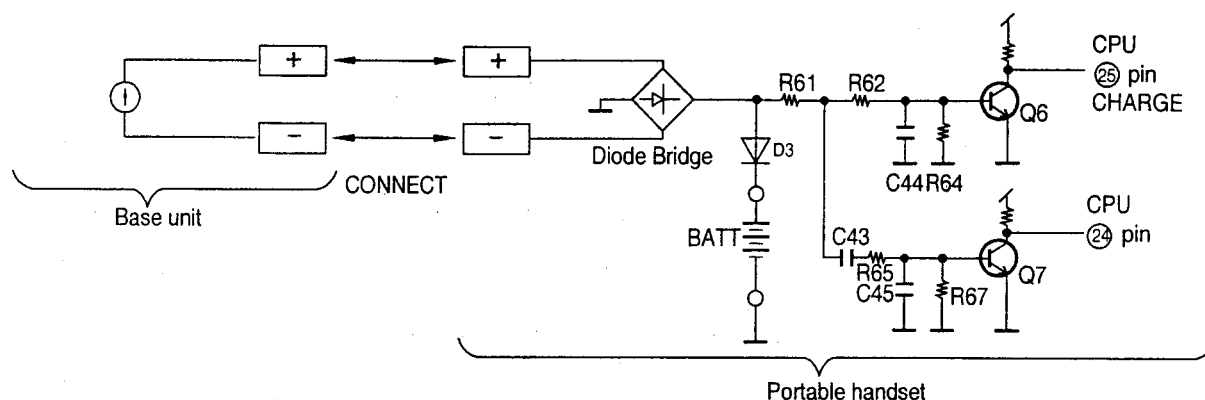


9. Charging Detection, ID Data Detection

If the portable handset is put on the base unit to recharge it, the DC voltage is applied to the charge terminal on the portable unit. At this time, the output of the diode bridge becomes High, and the charging detection signal is output when Q6 is changed from High to Low. Simultaneously, the differentiated signal is input to Q7 via C43 and Q7 outputs a low pulse to the CPU. Each output of Q6 and Q7 is the charging detection signal which the CPU uses when the power switch is on and off.

Battery recharging is carried out by the power supply from the diode bridge.

Circuit Diagram



10. CPU Power Supply, Low Battery

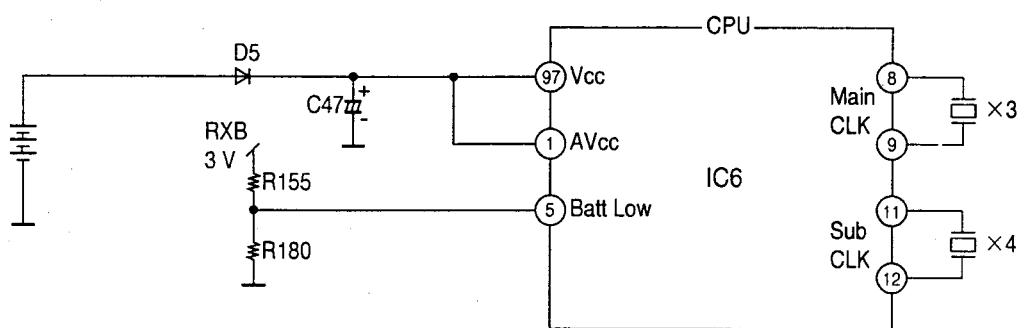
The power supplied to the CPU from the battery via D5.

The CPU detects that the battery is low by comparing the constant voltage of pin 5 with the battery voltage of pin 1.

In the standby mode, X4 of the subsidiary clock oscillates at 32.76 kHz.

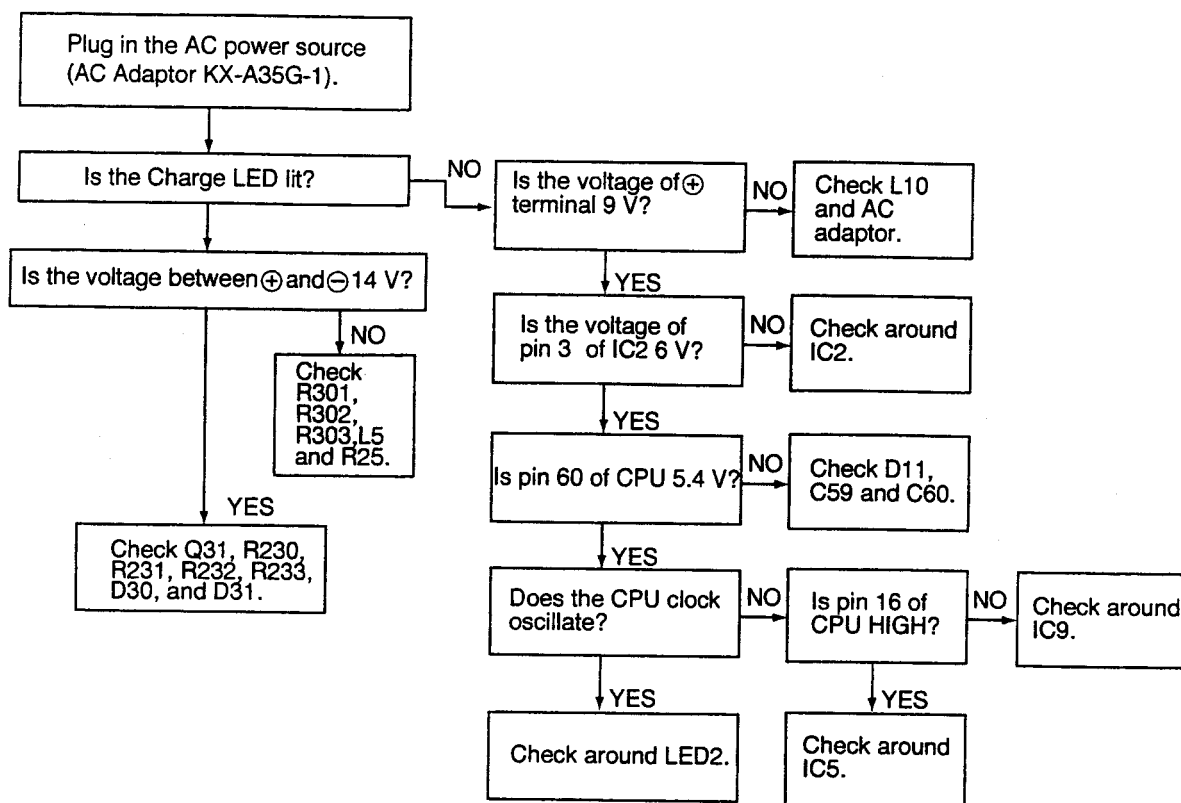
In the operation mode, X3 of the main clock oscillates at 4 MHz.

Circuit Diagram

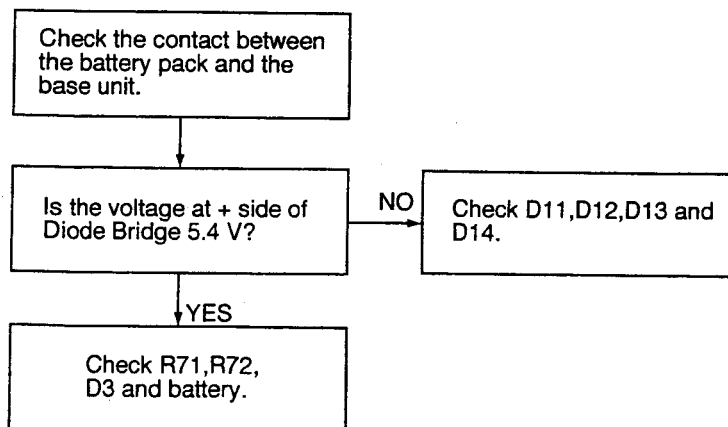


TROUBLESHOOTING GUIDE

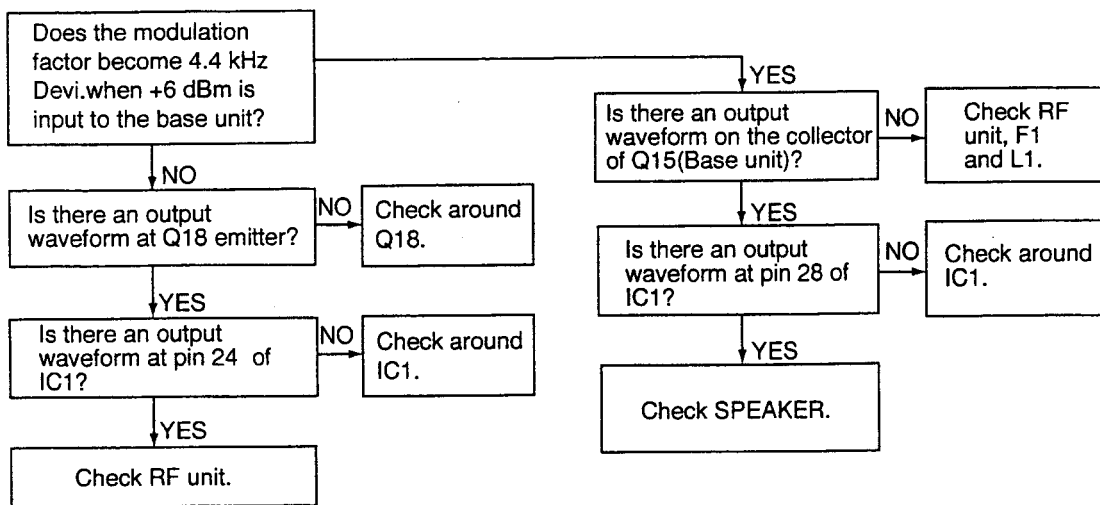
(1) Charging is not possible (Base unit)



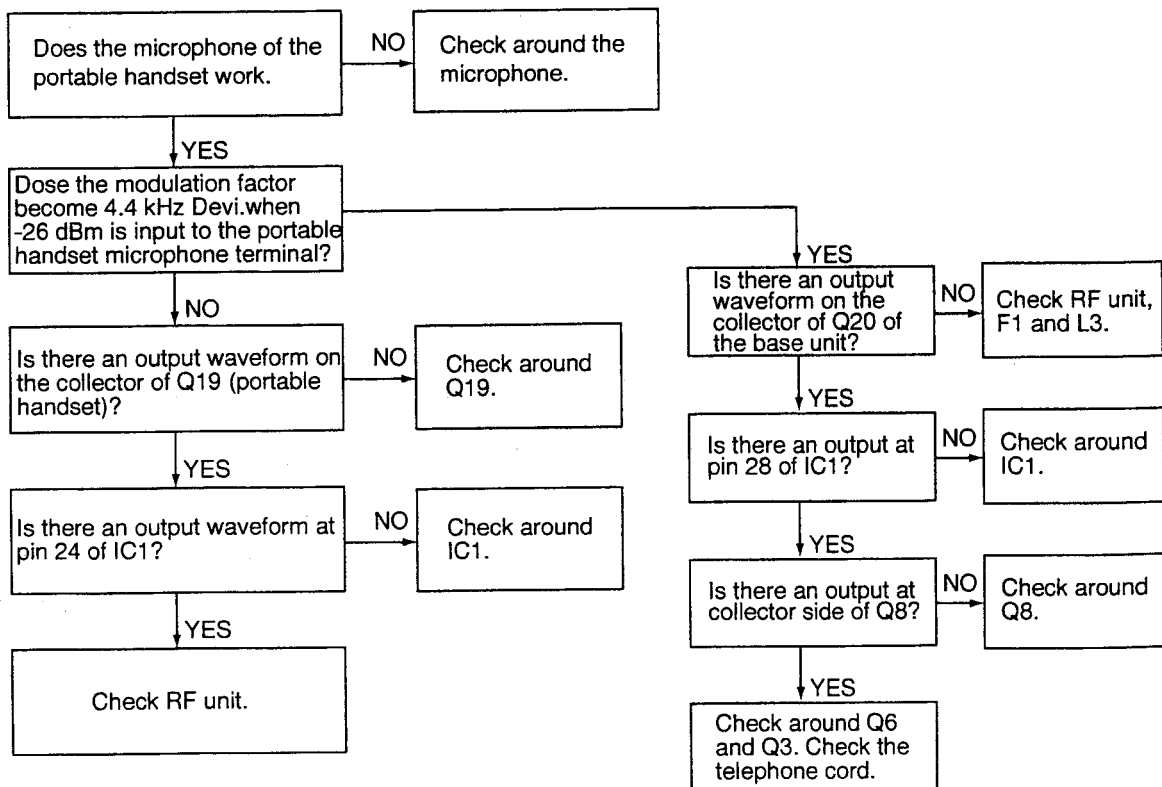
(2) Charging is not possible (Portable Handset)

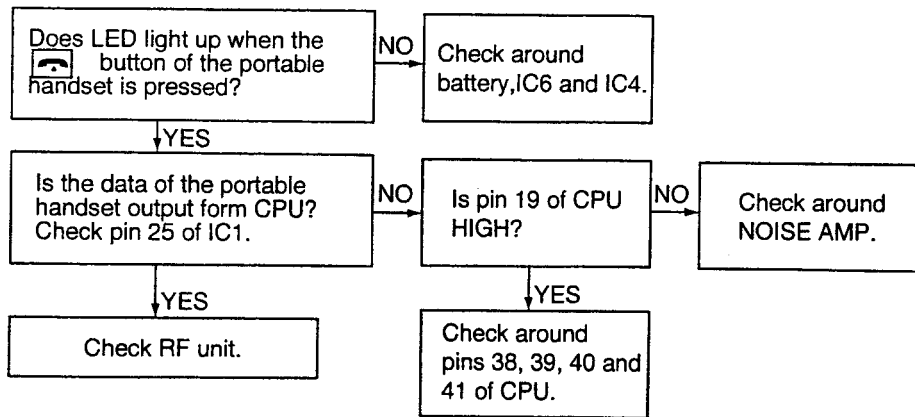
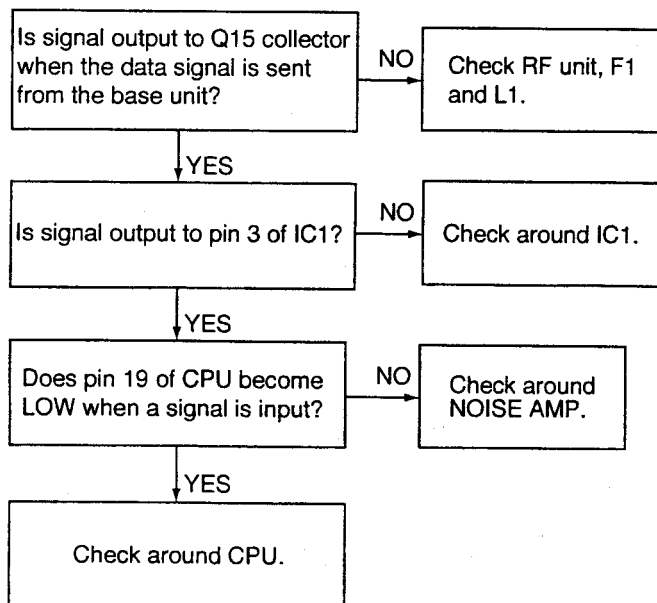


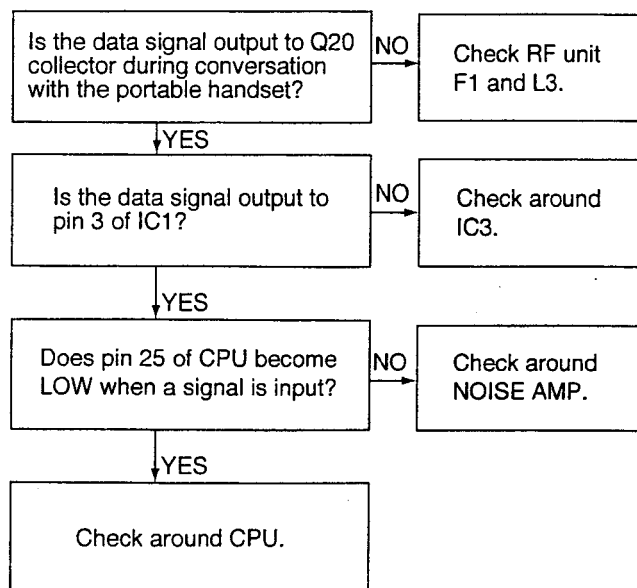
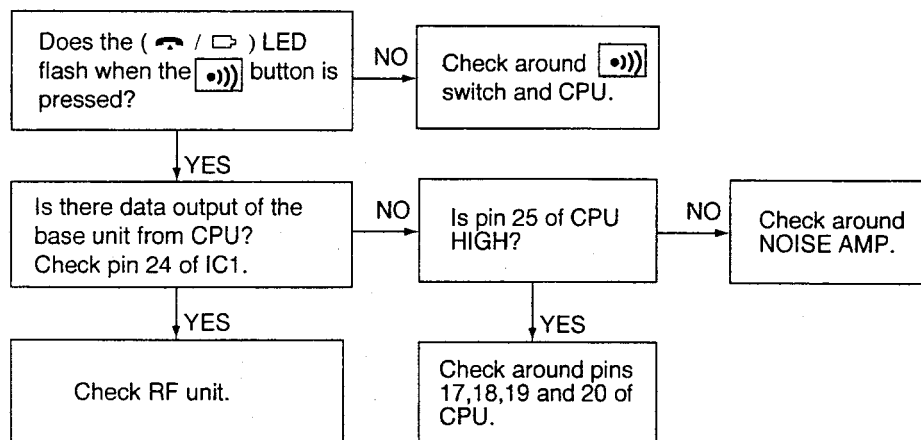
(3) No voice reception



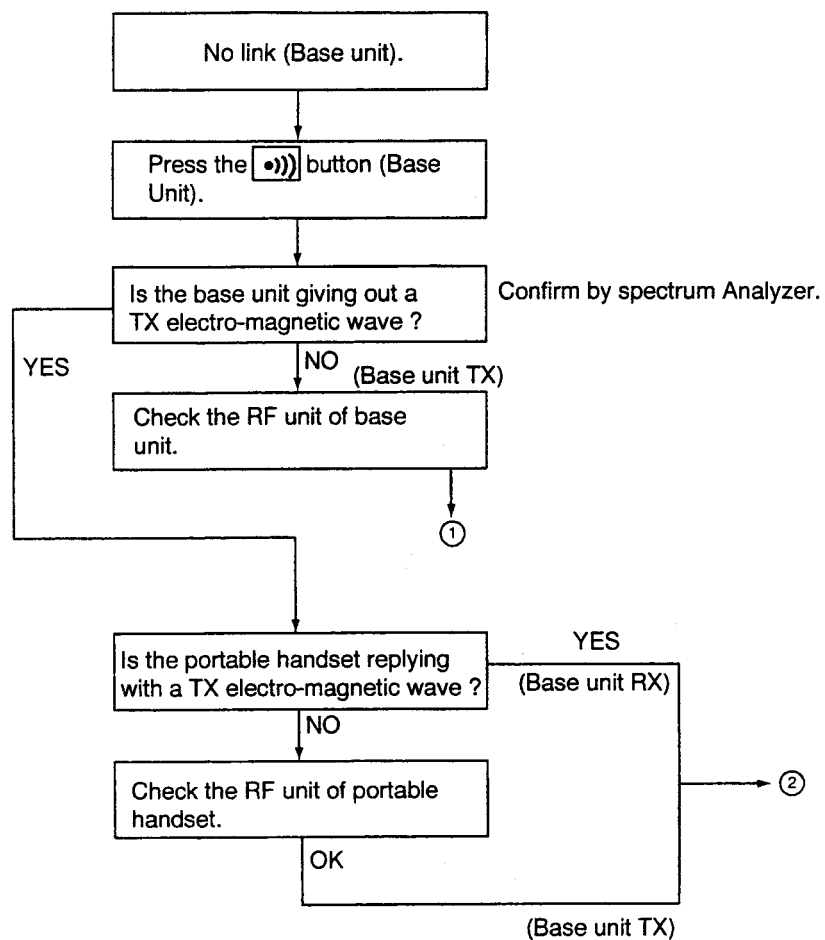
(4) No voice transmission

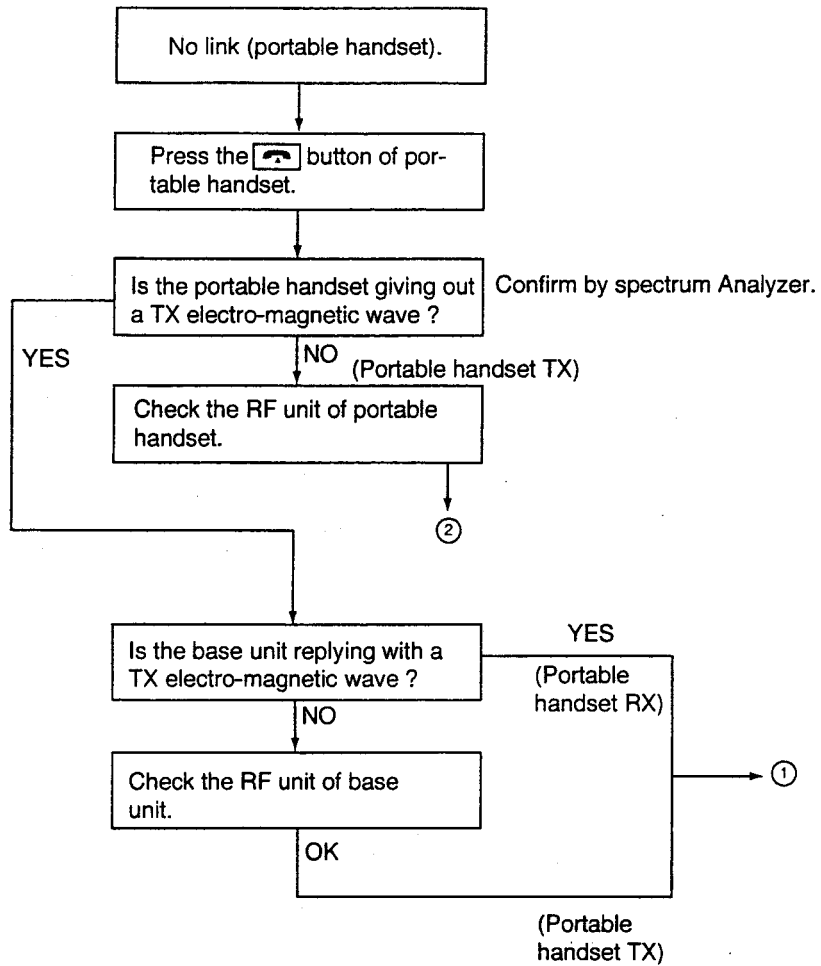


(5) No link (Portable handset TX)**(6) No link (Portable handset RX)**

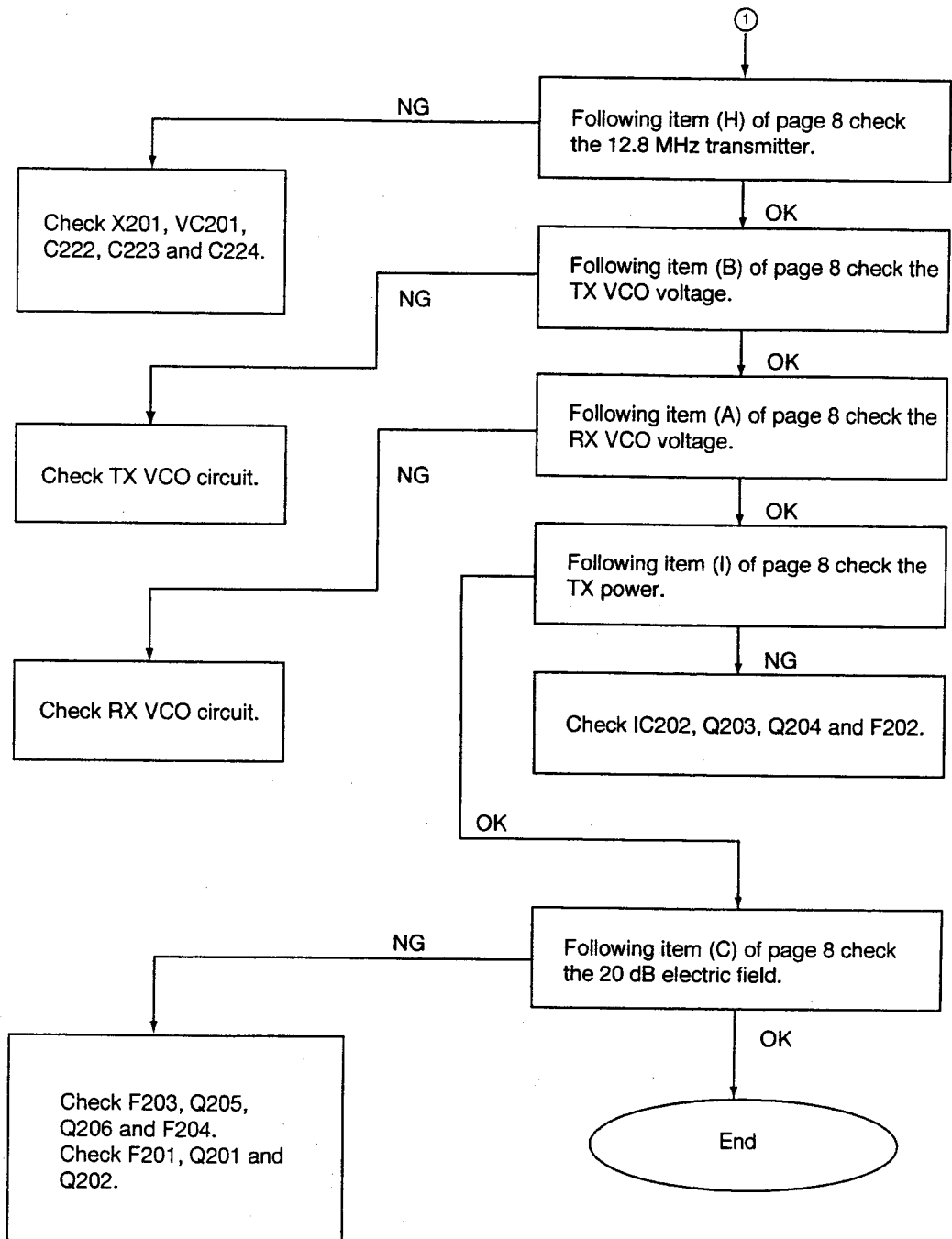
(7) No link (Base unit RX)**(8) No link (Base unit TX)**

(9) Check whether the RF unit defect is in the portable handset or the base unit.

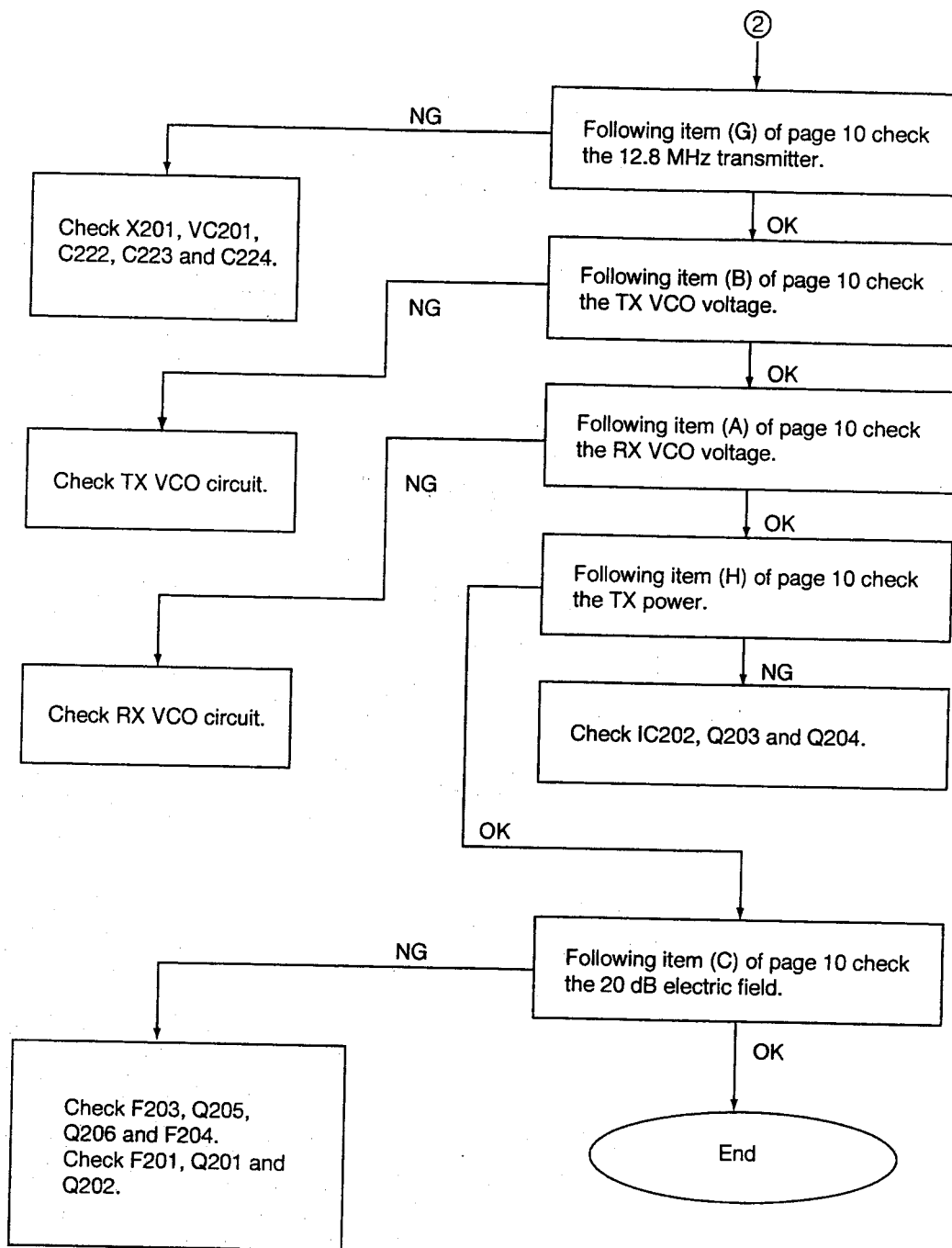




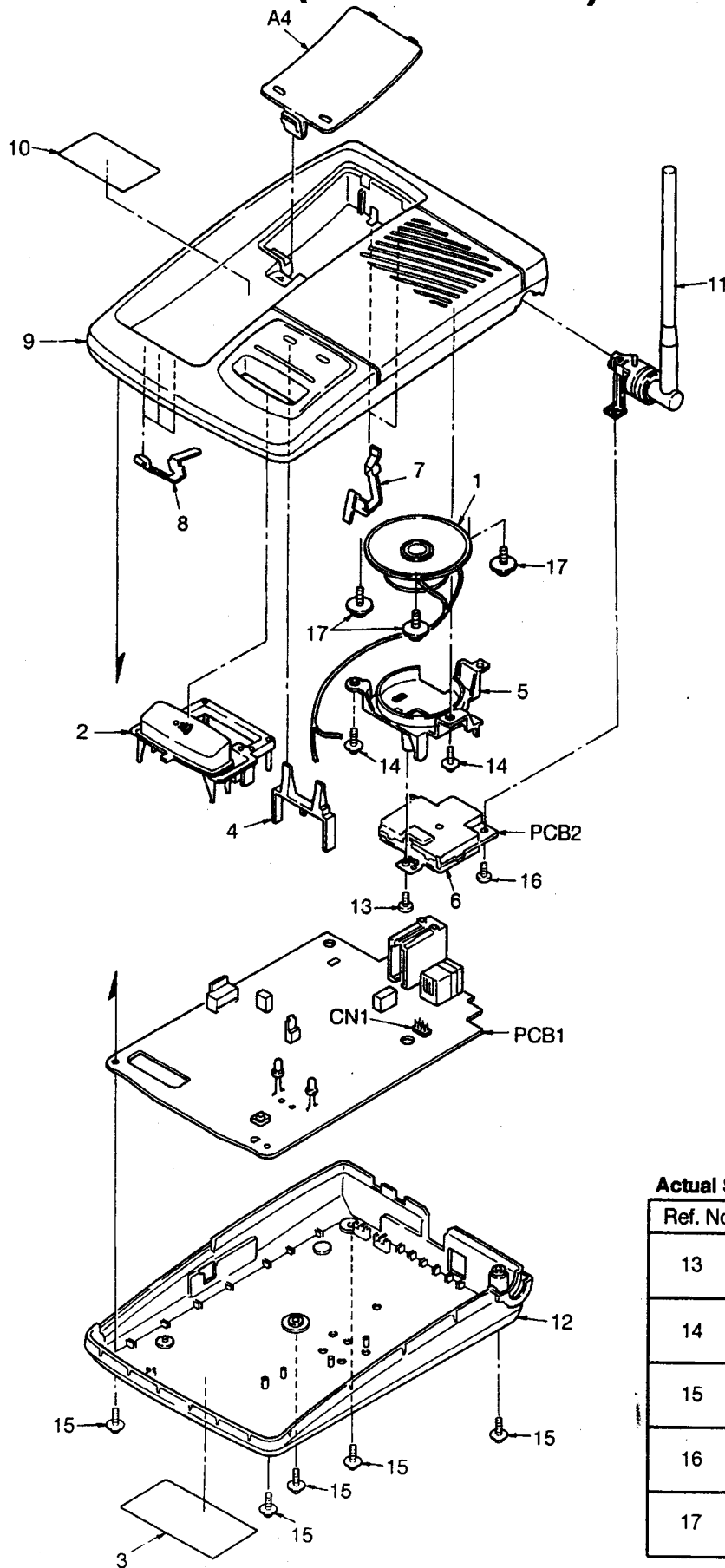
(10) Check the RF unit of the base unit.



(11) Check the RF unit of the portable handset.



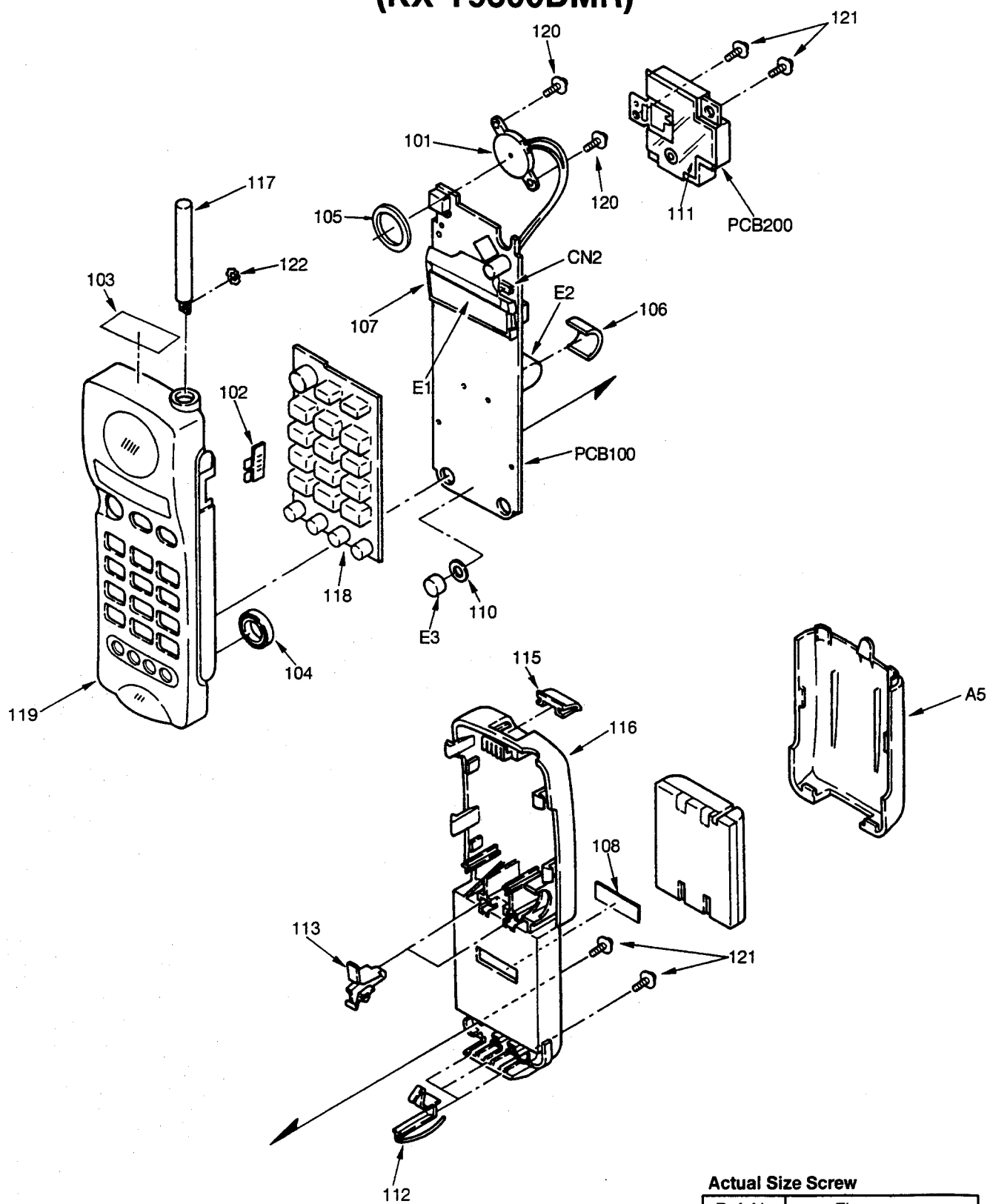
CABINET AND ELECTRICAL PARTS LOCATION (KX-T9300DMH)



Actual Size Screw

Ref. No.	Figure
13	
14	
15	
16	
17	

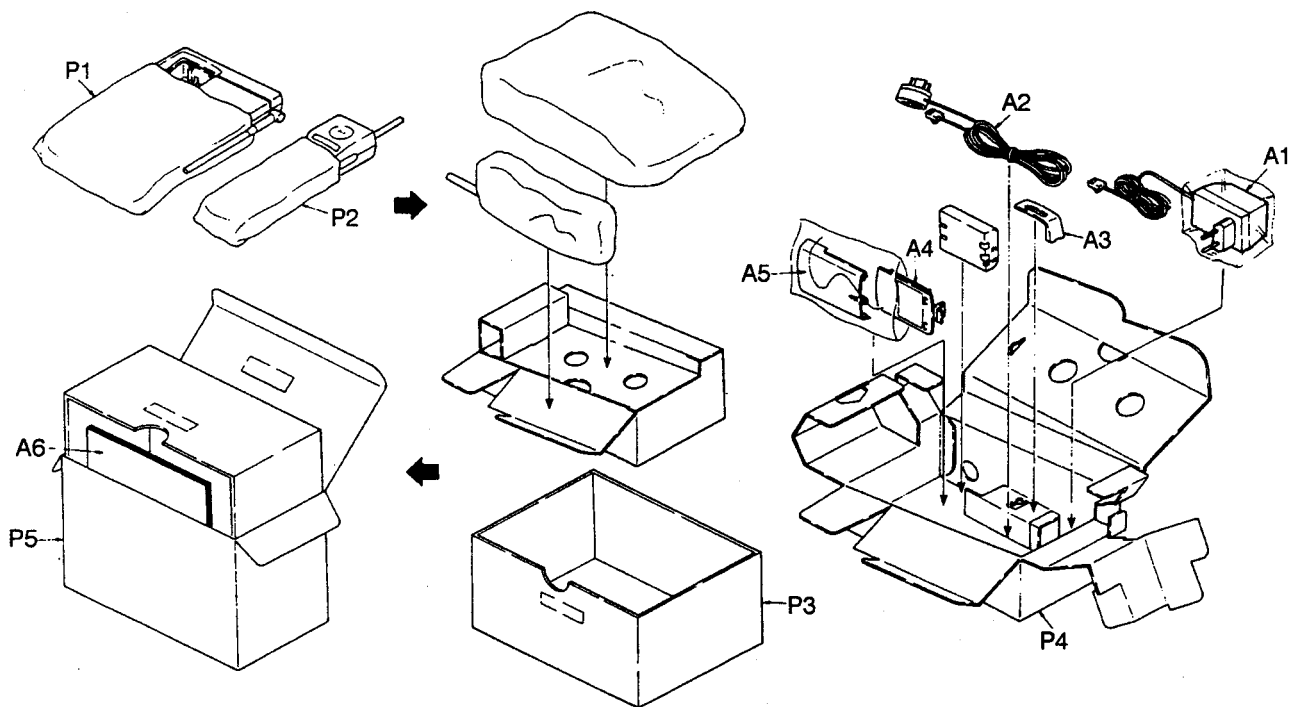
CABINET AND ELECTRICAL PARTS LOCATION (KX-T9300DMR)



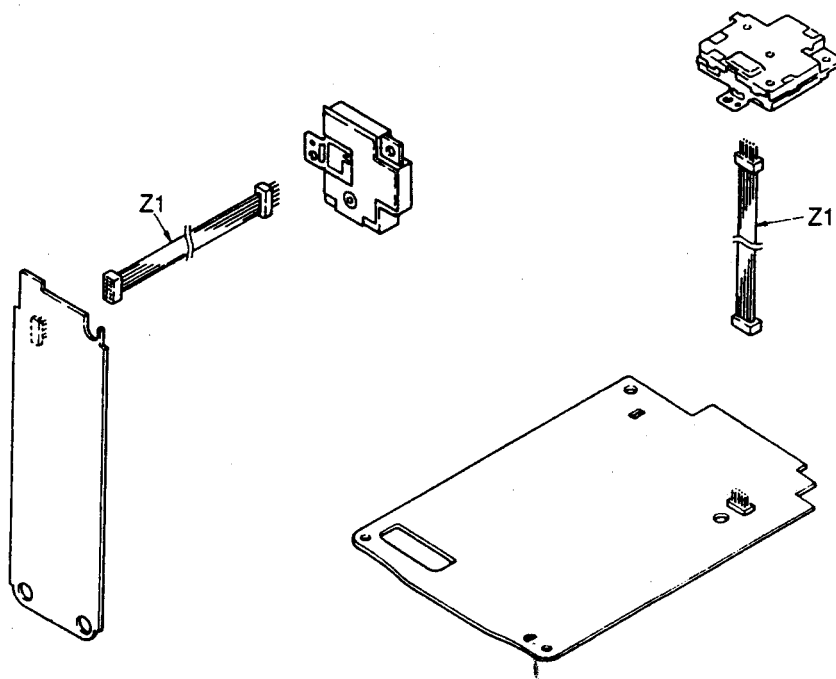
Actual Size Screw

Ref. No.	Figure
120	
121	

ACCESSORIES AND PACKING MATERIALS



FIXTURES AND TOOLS



This replacement parts list is Denmark version only. Refer to the simplified manual (cover) for other areas.

REPLACEMENT PARTS LIST

Model KX-T9300DMH

Note:

1. RTL (Retention Time Limited)
The marking (RTL) indicates that the Retention Time is limited for this item.
After the discontinuation of this assembly in production, the item will continue to be available for a specific period of time. The retention period of availability is dependent on the type of assembly, and in accordance with the laws governing part and product retention.
After the end of this period, the assembly will no longer be available.
2. Important safety notice.
Components identified by a Δ mark special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.
3. The S mark indicates service standard parts and may differ from production parts.

4. RESISTORS & CAPACITORS

Unless otherwise specified.

All resistors are in ohms (Ω) K=1000 Ω , M=1000K Ω

All capacitors are in MICRO FARADS (μ F) P= μ F

*Type & Wattage of Resistor

Type

ERC:Solid	ERX:Metal Film	PQ4R:Carbon
ERD:Carbon	ERG:Metal Oxide	ERS:Fusible Resistor
PQRD:Carbon	ER0:Metal Film	ERF:Cement Resistor

Wattage

10,16:1/8W	14,25:1/4W	12:1/2W	1:1W	2:2W	3:3W
------------	------------	---------	------	------	------

*Type & Voltage of Capacitor

Type

ECFD:Semi-Conductor	ECDD,ECKD,ECBT,PQCB: Ceramic
ECQS:Styrol	ECQE,ECQV,ECQG: Polyester
PQCUV:Chip	ECEA,ECSZ: Electrolytic
ECQMS:Mica	ECQP: Polypropylene

Voltage

ECQ Type	ECQG ECQV Type	ECSZ Type	Others	
1H: 50V	05: 50V	0F:3.15V	0J :6.3V	1V :35V
2A:100V	1:100V	1A:10V	1A :10V	50,1H:50V
2E:250V	2:200V	1V:35V	1C :16V	1J :63V
2H:500V		0J:6.3V	1E,25:25V	2A :100V

Ref. No.	Part No.	Part Name & Description	Pcs/Set
CABINET & ELECTRICAL PARTS			
1	PQAS5P25Z	SPEAKER	1
2	PQBC10165Z1	BUTTON, PAGE	S 1
3	PQGT12183Z	NAME PLATE	1
4	PQHR10298Y	LED PLATE	1
5	PQHR10320Z	SPEAKER HOLDER	1
6	PQHX10560Z	INSULATOR (RF)	1
7	PQJT10087Z	BATTERY TERMINAL	2
8	PQJT10088Z	BATTERY TERMINAL	3
9	PQKM10200R1	UPPER CABINET	S 1
10	PQQT11202Z	NOTE LABEL	1
11	PQSA10031Z	ANTENNA	1
12	PQYF10079P1	LOWER CABINET	1
13	XTN3+8G	SCREW (RF)	1
14	XTW3+S10P	SCREW (SPEAKER HOLDER)	2
15	XTW3+S14P	SCREW	5
16	XYC3+CG10FX	SCREW	1
17	PJHE5065Z	SCREW (SP)	3

Ref. No.	Part No.	Part Name & Description	Pcs/Set
MAIN P.C.BOARD PARTS			
PCB1	PQWPT9300DMH	P.C.BOARD ASS'Y (RTL)	1
		(ICS)	
IC1	AN6159FA	IC	1
IC2	PQVIPC78M06A	IC	S 1
IC4	MN150808KJAK	IC	1
IC5	PQVI93LC46XI	IC	S 1
IC7	AN6183SAE1	IC	1
IC8	PQVIMC34119M	IC	1
IC9	PQVITC7W04FL	IC	1
		(TRANSISTORS)	
Q1	2SC4116	TRANSISTOR(SI)	1
Q3	2SA1625	TRANSISTOR(SI)	1
Q4	PQVT2N6517CA	TRANSISTOR(SI)	1
Q6	2SD1992A	TRANSISTOR(SI)	1
Q7	2SD601A	TRANSISTOR(SI)	1
Q8	2SD601A	TRANSISTOR(SI)	1
Q9	2SD601A	TRANSISTOR(SI)	1
Q10	2SC4116	TRANSISTOR(SI)	1
Q13	2SD601A	TRANSISTOR(SI)	1
Q19	2SC4116	TRANSISTOR(SI)	1
Q20	2SC4116	TRANSISTOR(SI)	1
Q25	2SD1328	TRANSISTOR(SI)	1
Q30	PQVTDTC143E	TRANSISTOR(SI)	1
Q31	2SD1664Q	TRANSISTOR(SI)	1
Q301	2SC4116	TRANSISTOR(SI)	1
Q306	2SC4116	TRANSISTOR(SI)	1
IC3	XN1116	TRANSISTOR(SI)	1
		(DIODES)	
D1	PQVDS1ZB40F1	DIODE(SI)	1
D2	MA110	DIODE(SI)	1
D3	PQVDS1ZB40F1	DIODE(SI)	1
D5	MA110	DIODE(SI)	1
D8	MA4030	DIODE(SI)	1
D10	1SS131	DIODE(SI)	1
D11	MA700A	DIODE(SI)	1
D12	MA110	DIODE(SI)	1
D13	MA112	DIODE(SI)	1
D14	MA112	DIODE(SI)	1
D16	1SS131	DIODE(SI)	1
D17	MA110	DIODE(SI)	1
D20	MA110	DIODE(SI)	1
D23	MA110	DIODE(SI)	1
D30	MA8030	DIODE(SI)	1
D31	MA110	DIODE(SI)	1
D34	MA112	DIODE(SI)	1
D70	MA8068M	DIODE(SI)	1
D90	1SS131	DIODE(SI)	1
LED1	LNJ41LNKXAK	LED	1
LED2	LN31GCPHV	LED	1
		(COILS)	
L1	ELEV102KA	COIL	1
L2	ELEV102KA	COIL	1
L10	PQLQZM8R2K	COIL	1
L11	PQLQZM8R2K	COIL	1
L100	PQLQZM8R2K	COIL	1
L101	PQLQZM8R2K	COIL	1
L102	PQLQZM8R2K	COIL	1
R201	PQLQR1KT	COIL	1

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Ref. No.	Part No.	Part Name & Description	Pcs/Set	Ref. No.	Part No.	Value	Pcs/Set
SWV	PQSS3A17W	(SWITCHES)		R25	Not Used		
SW5	EVQJQJ05Q	SWITCH, RINGER VOLUME	1	R26	Not Used		
		SWITCH, PAGE	1	R27	ERJ3GEYJ223	22K	1
				R28	ERJ3GEYJ472	4.7K	1
				R29	ERJ3GEYJ393	39K	1
		(VARIABLE RESISTORS)		R30	ERJ3GEYJ562	5.6K	1
VR1	EVNDXAA03B24	VARIABLE RESISTOR	1	R31	PQ4R10XJ222	2.2K	1
VR2	EVNDXAA03B15	VARIABLE RESISTOR	1	R32	Not Used		
VR3	EVNDXAA03B24	VARIABLE RESISTOR	1	R33	ERJ3GEYJ472	4.7K	1
VR4	EVNDXAA03B54	VARIABLE RESISTOR	1	R34	ERJ3GEYJ102	1K	1
				R35	ERJ3GEYJ224	220K	1
		(VARISTORS)		R36	Not Used		
SA1	PQVDDSS301L	VARISTOR	1	R37	ERJ3GEYJ334	330K	1
SA2	PQVDDSS301L	VARISTOR	1	R38	ERJ3GEYJ153	15K	1
SA4	PQVDDSA302MU	VARISTOR	1	R39	Not Used		
		(PHOTO COUPLERS)		R40	ERJ3GEYJ472	4.7K	1
PC1	PQVIP27011M3	PHOTO ELECTRIC TRANSDUCER	1	R41	ERJ3GEYJ473	47K	1
PC3	PQVIP27011M3	PHOTO ELECTRIC TRANSDUCER	1	R42	PQ4R10XJ103	10K	1
PC4	PQVIP27021L3	PHOTO ELECTRIC TRANSDUCER	1	R43-46	Not Used		
				R47	ERJ3GEYJ564	560K	1
				R48	ERJ3GEYJ472	4.7K	1
				R49	ERJ3GEYJ105	1M	1
		(JACKS)		R50	ERJ3GEYJ472	4.7K	1
JJ1	PQJJ1T013Y	JACK, DC	1	R51	ERJ3GEYJ105	1M	1
JJ2	PQJJ1TC2Y	JACK, TEL	1	R52	ERJ3GEYJ273	27K	1
				R53	ERJ3GEYJ104	100K	1
		(CRYSTAL OSCILLATORS)		R54	ERJ3GEYJ124	120K	1
X1	PQVCJ2094N4R	CRYSTAL OSCILLATOR	1	R55	ERJ3GEYJ184	180K	1
X2	PQVFCDBM455M	CRYSTAL OSCILLATOR	1	R56	ERJ3GEYJ224	220K	1
X3	PQVCJ3581N9Z	CRYSTAL OSCILLATOR	1	R57	ERJ3GEYJ104	100K	1
				R58	ERJ3GEYJ185	1.8M	1
				R59	Not Used		
		(OTHERS)		R60	ERJ3GEYJ472	4.7K	1
CN1	PQJP10B01Z	CONNECTOR	1	R61	Not Used		
RLY1	PQSL134Z	RELAY	1	R62	ERJ3GEYJ222	2.2K	1
				R63	ERJ3GEYJ333	33K	1
				R64	ERJ3GEYJ243	24K	1
				R65	ERJ3GEYJ393	39K	1
				R66	ERJ3GEYJ473	47K	1
				R67	ERJ3GEYJ393	39K	1
				R68	ERJ3GEYJ473	47K	1
				R69	ERJ3GEYJ392	3.9K	1
		(RESISTORS)		R70	ERJ3GEYJ103	10K	1
R1	PQRD1VJ154	150K	1	R71	ERJ3GEYJ273	27K	1
R2	ERDS2TJ824	820K	1	R72	ERJ3GEYJ273	27K	1
R3	Not Used			R73	ERJ3GEYJ272	2.7K	1
R4	ERJ3GEYJ104	100K	1	R74	Not Used		
R5	ERJ3GEYJ153	15K	1	R75	ERJ3GEYJ333	33K	1
R6	PQ4R10XJ473	47K	1	R76	ERJ3GEYJ123	12K	1
R7-9	Not Used			R77	ERJ3GEYJ683	68K	1
R10	Not Used			R78	PQ4R10XJ222	2.2K	1
R11	Not Used			R79	ERDS2TJ564	560K	1
R12	ERJ3GEYJ104	100K	1	R80	ERJ3GEYJ123	12K	1
R13	ERJ3GEYJ472	4.7K	1	R81	ERJ3GEYJ183	18K	1
R14	ERJ3GEYJ473	47K	1	R82	ERJ3GEYJ153	15K	1
R15	PQ4R10XJ104	100K	1	R83	Not Used		
R16	ERDS2TJ471	470	1	R84	Not Used		
R17	ERDS2TJ821	820	1	R85	PQ4R10XJ471	470	1
R18	Not Used			R86	ERJ3GEYJ473	47K	1
R19	Not Used			R87-89	Not Used		
R20	Not Used			R90	ERD25TJ271	270	1
R21	ERJ3GEYJ153	15K	1	R91	Not Used		
R22	ERJ3GEYJ392	3.9K	1	R92	ERD25TJ181	180	1
R23	ERJ3GEYJ103	10K	1	R93	PQ4R10XJ222	2.2K	1
R24	ERJ14YJ470	47	1				

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Ref. No.	Part No.	Value	Pcs/Set	Ref. No.	Part No.	Value	Pcs/Set
R94	ERJ3GEYJ103	10K	1	R186	ERJ3GEYJ103	10K	1
R95	ERJ3GEYJ102	1K	1	R187	ERJ3GEY0R00	0	1
R96	ERJ3GEYJ102	1K	1	R188	PQ4R18XJ000	0	1
R97	ERJ3GEYJ683	68K	1	R189	ERJ3GEYJ104	100K	1
R98	ERJ3GEYJ103	10K	1				
R99	ERJ3GEYJ104	100K	1	R190	ERJ3GEYJ100	10	1
				R191~194	Not Used		
R100	ERJ3GEYJ822	8.2K	1	R195	ERJ3GEYJ103	10K	1
R101	ERJ3GEYJ473	47K	1	R196	ERJ3GEYJ104	100K	1
R102	ERJ3GEYJ562	5.6K	1	R197	ERJ3GEYJ563	56K	1
R103	ERJ3GEYJ223	22K	1	R198	Not Used		
R104	ERJ3GEYJ562	5.6K	1	R199	ERJ3GEYJ102	1K	1
R105	ERJ3GEYJ822	8.2K	1				
R106	Not Used			R200	ERJ3GEYJ104	100K	1
R107	ERJ3GEYJ332	3.3K	1	R202	ERJ3GEYJ100	10	1
R108	ERJ3GEYJ105	1M	1	R203~209	Not Used		
R109	ERJ3GEYJ271	270	1				
				R210	ERJ3GEYJ332	3.3K	1
R110	ERJ3GEYJ681	680	1	R211	ERJ3GEYJ224	220K	1
R111	ERJ3GEYJ104	100K	1	R212~214	Not Used		
R112	Not Used			R215	ERJ3GEYJ681	680	1
R113	ERJ3GEYJ223	22K	1	R216~219	Not Used		
R114	ERJ3GEYJ223	22K	1				
R115	ERJ3GEYJ223	22K	1	R220	ERJ3GEYJ222	2.2K	1
R116	ERJ3GEYJ223	22K	1	R221~229	Not Used		
R117	ERJ3GEYJ104	100K	1				
R118	Not Used			R230	PQ4R18XJ561	560	1
R119	Not Used			R231	PQ4R10XJ221	220	1
				R232	PQ4R10XJ121	120	1
R120	Not Used			R233	PQ4R10XJ120	12	1
R121	ERJ3GEY0R00	0	1	R234~239	Not Used		
R122~139	Not Used						
				R240	Not Used		
R140~148	Not Used			R241	Not Used		
R149	ERJ3GEYJ104	100K	1	R242	ERJ3GEYJ332	3.3K	1
				R243	ERJ3GEYJ332	3.3K	1
R150	ERJ3GEYJ473	47K	1	R244	ERJ3GEYJ102	1K	1
R151	Not Used			R245	ERJ3GEYJ102	1K	1
R152	PQ4R10XJ000	0	1	R246	ERJ3GEYJ272	2.7K	1
R153	Not Used			R247	ERJ3GEYJ182	1.8K	1
R154	Not Used			R248	ERJ3GEYJ223	22K	1
R155	ERJ3GEYJ473	47K	1	R249	ERJ3GEYJ102	1K	1
R156	ERJ3GEYJ683	68K	1				
R157	ERJ3GEYJ472	4.7K	1	R250	ERJ3GEYJ224	220K	1
R158	ERJ3GEYJ103	10K	1	R251	ERJ3GEYJ222	2.2K	1
R159	Not Used			R252	ERJ3GEYJ271	270	1
				R253~269	Not Used		
R160	ERJ3GEYJ101	100	1				
R161	ERJ3GEYJ103	10K	1	R270	Not Used		
R162~165	Not Used			R271	ERJ3GEYJ683	68K	1
R166	ERJ3GEY0R00	0	1	R272	ERJ3GEYJ104	100K	1
R167	ERJ3GEY0R00	0	1	R273	ERJ3GEY0R00	0	1
R168	ERJ3GEYJ681	680	1	R274	ERJ3GEYJ104	100K	1
R169	Not Used			R275~319	Not Used		
R170	ERJ3GEYJ330	33	1	R320	Not Used		
R171	Not Used			R321	ERJ3GEYJ103	10K	1
R172	Not Used			R322	ERJ3GEYJ474	470K	1
R173	ERJ3GEYJ224	220K	1	R323~399	Not Used		
R174	ERJ3GEYJ224	220K	1				
R175	ERJ3GEYJ392	3.9K	1	R400	ERJ3GEY0R00	0	1
R176	ERJ3GEYJ391	390	1				
R177	Not Used			J73	ERJ3GEY0R00	0	1
R178	ERJ3GEYJ153	15K	1	J76	ERJ3GEY0R00	0	1
R179	Not Used			J79	ERJ3GEY0R00	0	1
				J84	ERJ3GEY0R00	0	1
R180	ERJ3GEYJ102	1K	1	J87	ERJ3GEY0R00	0	1
R181	ERJ3GEYJ102	1K	1	J90	ERJ3GEY0R00	0	1
R182	ERJ3GEYJ102	1K	1	J93	ERJ3GEY0R00	0	1
R183	ERJ3GEYJ102	1K	1	J99	ERJ3GEY0R00	0	1
R184	ERJ3GEYJ104	100K	1	J103	ERJ3GEY0R00	0	1

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This replacement parts list is Denmark version only. Refer to the simplified manual (cover) for other areas.

Ref. No.	Part No.	Value	Pcs/Set	Ref. No.	Part No.	Part Name & Description	Pcs/Set
C100	PQCUV1H103KB	0.01	1	RF UNIT PARTS			
C101	Not Used			PCB2	PQLP10153S	P.C.BOARD ASS'Y (RTL)	1
C102	Not Used						
C103	ECUV1H223KBV	0.022	S 1			(ICS)	
C104	ECUV1H332KBV	0.0033	1	IC201	PQVIM64084GP	IC	1
C105	ECEA0JK221	220	S 1	IC202	PQVIPC2746TE	IC	1
C106~129	Not Used						
C130	ECUV1H102KBV	1000P	1			(TRANSISTORS)	
C131~139	Not Used			Q201	2SC4099NT106	TRANSISTOR(SI)	1
C140	ECUV1H222KBV	2200P	1	Q202	2SC4099NT106	TRANSISTOR(SI)	1
C141~149	Not Used			Q203	2SC4571R77	TRANSISTOR(SI)	S 1
C150	ECUV1E104ZFV	0.1	1	Q204	2SC3356R24	TRANSISTOR(SI)	1
C151	Not Used			Q205	2SC4571R77	TRANSISTOR(SI)	S 1
C152	ECUV1H101JCV	100P	1	Q206	2SC4226R24	TRANSISTOR(SI)	1
C153~159	Not Used						
C160	Not Used					(COILS)	
C161	ECST1CY475	4.7	1	L201	PQLQR2N1R0KT	COIL	1
C162	ECST0JY475	4.7	1	L202	PQLQR2N1R0KT	COIL	1
C163	ECUV1H102KBV	1000P	1	L203	PQLQR2M4N7K	COIL	1
C164	ECUV1H473MDV	0.047	1	L204	PQLQR2M10NKT	COIL	1
C165~169	Not Used			L205	PQLQR2M10NKT	COIL	1
C170	Not Used			L206	MQLRE12NJF	COIL	1
C171	PQCUV1C105ZF	1	1	L207	MQLRE10NJF	COIL	1
C172	PQ4R10XJ000	0	1	L209	PQLQR2M4N7K	COIL	1
C173	ECUV1E104ZFV	0.1	1	L210	PQLQR2M4N7K	COIL	1
C174	PQCUV1E104MD	0.1	1	L220	PQLQR2M8N2KT	COIL	1
C175~199	Not Used			L221	PQLQR2M8N2KT	COIL	1
C200	PQCUV1E104MD	0.1	1	C233	PQLQR2M10NKT	COIL	1
C201~249	Not Used						
C250	PQ4R10XJ000	0	1	VC0201	PQV016Z	(OSCILLATORS)	
C251~299	Not Used			VC0202	PQV015Z	OSCILLATOR	1
C300	EECW5R5D473	0.047	1			OSCILLATOR	1
C301~319	Not Used						
C320	Not Used			F201	PQVCM21M8PJ2	(SAW FILTERS)	
C321	ECUV1H102KBV	1000P	1	F202	PQVSM959E11L	CERAMIC FILTER	1
C322~329	Not Used			F203	PQVSM914E11L	CERAMIC FILTER	1
C330	ECUV1H682KBV	6800P	1	F204	EZF9N14AM01	CERAMIC FILTER	1
C331~499	Not Used						
C500	Not Used			VC201	PQCVTZB10ZA	(OTHERS)	
C501	ECUV1H103KBV	0.01	1	X201	PQVC01280K4Z	TRIMMER CAPACITOR	1
C502~599	Not Used			CN201	PQJS10A82Z	CRYSTAL OSCILLATOR	1
C600	ECUV1E104ZFV	0.1	1			CONNECTOR	1
C601~659	Not Used						
C660~665	Not Used						
C666	ECKD3D681KBP	680P	1				
C667	Not Used						
C668	ECST1CC336	33	1				
C669~899	Not Used					(RESISTORS)	
C900	ECUV1E104ZFV	0.1	1	R201	ERJ3GEYJ220	22	1
C901	ECUV1E104ZFV	0.1	1	R202	ERJ3GEYJ680	68	1
C902	PQCUV1C105ZF	1	1	R203	ERJ3GEYJ000	0	1
				R204	ERJ3GEYJ153	15K	1
				R205	ERJ3GEYJ153	15K	1
				R206	ERJ3GEYJ563	56K	1
				R207	ERJ3GEYJ470	47	1
				R208	ERJ3GEYJ104	100K	1
				R209	ERJ3GEYJ272	2.7K	1

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Ref. No.	Part No.	Value	Pcs/Set	Ref. No.	Part No.	Value	Pcs/Set
R210	ERJ3GEYJ104	100K	1	C222	ECUV1H100DCV	10P	1
R211	ERJ3GEYJ122	1.2K	1	C223	ECUV1H270JCV	27P	1
R212	ERJ3GEYJ561	560	1	C224	ECUV1H270JCV	27P	1
R213	ERJ3GEYJ470	47	1	C225	Not Used		
R214	ERJ3GEYJ104	100K	1	C226	Not Used		
R215	ERJ3GEYJ681	680	1	C227	ECUV1H102KBV	1000P	1
R216	Not Used			C228	ECUV1H020CCV	2P	1
R217	Not Used			C229	ECUV1H102KBV	1000P	1
R218	ERJ3GEYJ820	82	1				
R219	ERJ3GEYJ123	12K	1	C230	ECUV1H040CCV	4P	1
				C231	Not Used		
R220	ERJ3GEYJ470	47	1	C232	ECUV1H102KBV	0.001	1
R221	ERJ3GEYJ100	10	1	C234	ECUV1H020CCV	2P	1
R222	ERJ3GEYJ123	12K	1	C235	ECUV1H101JCV	100P	1
R223	ERJ3GEYJ473	47K	1	C236	ECUV1H101JCV	100P	1
R224	ERJ3GEYJ683	68K	1	C237	Not Used		
R225	ERJ3GEYJ470	47	1	C238	ECUV1H040CCV	4P	1
R226	ERJ3GEYJ470	47	1	C239	Not Used		
R227	ERJ3GEYJ390	39	1				
R228	ERJ3GEYJ681	680	1	C240	ECUV1H040CCV	4P	1
R229	ERJ3GEYJ820	82	1	C241	ECUV1H102KBV	0.001	1
				C242	ECUV1H102KBV	0.001	1
R230	ERJ3GEYJ563	56K	1	C243	Not Used		
R231	ERJ3GEYJ153	15K	1	C244	ECUV1H102KBV	0.001	1
R232	ERJ3GEYJ153	15K	1	C245	ECUV1H101JCV	100P	1
R233	ECUV1H010CCV	1P	1	C246	ECUV1H020CCV	2P	1
R234	ERJ3GEYJ100	10	1	C247	ECUV1E104ZFV	0.1	1
R235-239	Not Used			C248	Not Used		
				C249	ECST0JX226	22	1
R240	ERJ3GEYJ272	2.7K	1				
R241-259	Not Used			C250	Not Used		
				C251	ECUV1H102KBV	0.001	1
R260	Not Used			C252	ECUV1C224KB	0.22	1
R261	ERJ3GEYJ000	0	1	C253	ECUV1H562KBV	0.0056	1
R262-269	Not Used			C254	ECUV1H562KBV	0.0056	1
				C255-259	Not Used		
R270	ERJ3GEYJ000	0	1				
				C260	Not Used		
				C261	Not Used		
				C262	ECUV1H101JCV	100P	1
				L208	ECUV1H101JCV	100P	1
		(CAPACITORS)					
C201	Not Used						
C202	ECST0JX226	22	1				
C203	PQCUV1C105ZF	1	1				
C204	ECUV1H101JCV	100P	1				
C205	ECUV1H821KBV	820P	1				
C206	Not Used						
C207	ECUV1H332KBV	0.0033	1				
C208	ECUV1H332KBV	0.0033	1				
C209	ECUV1E104ZFV	0.1	1				
			S				
C210	ECUV1H103KBV	0.01	1				
C211	ECST0JX226	22	1				
C212	ECUV1H103KBV	0.01	1				
C213	ECUV1H101JCV	100P	1				
C214	Not Used						
C215	ECUV1H040CCV	4P	1				
C216	ECUV1H103KBV	0.01	1				
C217	ECUV1H270JCV	27P	1				
C218	ECUV1E104ZFV	0.1	1				
C219	Not Used						
			S				
C220	ECUV1H010CCV	1P	1				
C221	Not Used						

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REPLACEMENT PARTS LIST

Model KX-T9300DMR

Note:

1. RTL (Retention Time Limited)
The marking (RTL) indicates that the Retention Time is limited for this item.
After the discontinuation of this assembly in production, the item will continue to be available for a specific period of time. The retention period of availability is dependent on the type of assembly, and in accordance with the laws governing part and product retention.
After the end of this period, the assembly will no longer be available.
2. Important safety notice.
Components identified by a Δ mark special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.
3. The S mark indicates service standard parts and may differ from production parts.
4. RESISTORS & CAPACITORS
Unless otherwise specified.
All resistors are in ohms (Ω) K=1000 Ω , M=1000K Ω
All capacitors are in MICRO FARADS (μ F) P= μ F
*Type & Wattage of Resistor

ERC:Solid	ERX:Metal Film	PQ4R:Carbon
ERD:Carbon	ERG:Metal Oxide	ERS:Fusible Resistor
PQRD:Carbon	ER0:Metal Film	ERF:Cement Resistor

Wattage

10,16:1/8W	14,25:1/4W	12:1/2W	1:1W	2:2W	3:3W
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*Type & Voltage of Capacitor

ECFD:Semi-Conductor	ECED,ECKD,ECBT,PQCBC : Ceramic
ECQS:Styrol	ECQE,ECQV,ECQG : Polyester
PQCUV:Chip	ECEA,ECSZ : Electrolytic
ECQMS:Mica	ECQP : Polypropylene

Voltage

ECQ Type	ECQG ECQV Type	ECSZ Type	Others	
1H: 50V	05: 50V	0F:3.15V	0J :6.3V	1V :35V
2A:100V	1:100V	1A:10V	1A :10V	50,1H:50V
2E:250V	2:200V	1V:35V	1C :16V	1J :63V
2H:500V		0J:6.3V	1E,25:25V	2A :100V

Ref. No.	Part No.	Part Name & Description	Pcs/Set
CABINET & ELECTRICAL PARTS			
101	PQAX3P19Z	SPEAKER	1
102	PQBD10032Y1	KNOB, POWER	S 1
103	PQGT12184Z	NAME PLATE	1
104	PQHG10286Z	SPACER (MIC)	1
105	PQHG10300Z	SPACER (SPEAKER)	1
106	PQHG10326Z	SPACER (RINGER)	1
107	PQHR10315Z	LCD HOLDER	1
108	PQHX10085Z	ID COVER	1
109	PQHX10494Z	SPACER (RF)	1
110	PQHX10503Z	SPACER (MIC)	1
111	PQHX10560Z	INSULATOR (RF)	1
112	PQJT10085Z	BATTERY TERMINAL	S 3
113	PQJT10086Z	BATTERY TERMINAL	2
114	PQJT10090Z	BATTERY TERMINAL	S 5
115	PQKE10038Z1	HANGER	1
116	PQKF10119Z1	CABINET PLATE	1
117	PQSA808X	ANTENNA	1
118	PQSX10016Z1	BUTTON, KEY	1
119	PQYM10046W1	CABINET BODY	1
120	XTN26+6J	TAPPING SCREW	2
121	XTW26+12F	TAPPING SCREW	4
122	XWC26BFN	WASHER	1

Ref. No.	Part No.	Part Name & Description	Pcs/Set
MAIN P.C.BOARD PARTS			
PCB100	PQWPT9300DMR	P.C.BOARD ASS'Y (RTL)	1
(ICS)			
IC1	AN6159FA	IC	1
IC2	PQVIXC3002MR	IC	1
IC3	PQVIA8184SLT	IC	1
IC4	PQVISC78184D	IC	1
IC5	PQVI93LC46XI	IC	1
IC6	PQVI4829C23H	IC	1
(TRANSISTORS)			
Q1	2SD1328	TRANSISTOR(SI)	1
Q5	PQVDTDC143E	TRANSISTOR(SI)	1
Q6	2SC4116	TRANSISTOR(SI)	1
Q7	2SC4116	TRANSISTOR(SI)	1
Q9	2SB1218A	TRANSISTOR(SI)	1
Q11	PQVDTDC143E	TRANSISTOR(SI)	1
Q12	PQVDTDC143E	TRANSISTOR(SI)	1
Q13	PQVDTA143EU	TRANSISTOR(SI)	1
Q14	PQVDTB123E	TRANSISTOR(SI)	1
Q15	2SD1819A	TRANSISTOR(SI)	1
Q16	PQVDTB123E	TRANSISTOR(SI)	1
Q17	PQVDTB123E	TRANSISTOR(SI)	1
Q18	PQVDTA143EU	TRANSISTOR(SI)	1
Q19	2SD1819A	TRANSISTOR(SI)	1
Q21	PQVDTDC144TU	TRANSISTOR(SI)	S 1
(DIODE(SI))			
D1	MA8150	DIODE(SI)	1
D3	MA110	DIODE(SI)	1
D5	PQVDRB751H4	DIODE(SI)	1
D11	MA729	DIODE(SI)	1
D12	MA729	DIODE(SI)	1
D13	MA729	DIODE(SI)	1
D14	MA729	DIODE(SI)	1
D15	MA110	DIODE(SI)	1
D16	MA8039	DIODE(SI)	1
D17	MA110	DIODE(SI)	1
(VARIABLE RESISTORS)			
VR1	EVM1YSX50B24	VARIABLE RESISTOR	1
VR3	EVM1YSX50B54	VARIABLE RESISTOR	1
VR4	EVM1SSX50B53	VARIABLE RESISTOR	1
(CRYSTALS)			
X1	PQVCE2094N4R	CRYSTAL OSCILLATOR	1
X3	PQVBTCS4.00M	CRYSTAL OSCILLATOR	1
X4	PQVCE3276N9Z	CRYSTAL OSCILLATOR	1
(CONNECTORS)			
CN1	PQJP10B01Z	CONNECTOR (RF)	1
CN2	PQJS36A62Z	CONNECTOR (LCD)	1
(OTHERS)			
E1	PQADB5567AX2	LIQUID CRYSTAL DISPLAY	1
E2	PQEFBQM111G3	BUZZER	S 1
E3	PQJM122Z	MICROPHONE	1
F1	PQVFSFPC455E	CERAMIC FILTER	1
L1	PQVFCDBC455M	CERAMIC FILTER	1
R128	PQLQR1RM601	COIL	1
S1	ESD11H120	SWITCH, POWER	1

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Ref. No.	Part No.	Value	Pcs/Set	Ref. No.	Part No.	Value	Pcs/Set
R1	ERJ3GEYJ684	(RESISTORS)		R67	ERJ3GEYJ474	470K	1
R2	ERJ3GEYJ100	680K	1	R68	Not Used		
R3	ECUV1H472KBV	10	1	R69	Not Used		
R4	ERJ3GEYJ332	0.0047	1	R70	Not Used		
R5	ERJ3GEYJ393	3.3K	1	R71	PQ4R10XJ000	0	1
R6	Not Used	39K	1	R72	PQ4R10XJ000	0	1
R7	ERJ3GEYJ473	47K	1	R73	PQ4R10XJ221	220	1
R8	ERJ3GEYJ473	47K	1	R74~78	Not Used		
R9	ERJ3GEYJ183	18K	1	R79	ERJ3GEYJ103	10K	1
R10	ERJ3GEYJ183	18K	1	R80	ERJ3GEYJ104	100K	1
R11	ERJ3GEYJ683	68K	1	R81	ERJ3GEYJ683	68K	1
R12	ERJ3GEYJ823	82K	1	R82~86	Not Used		
R13	ERJ3GEYJ222	2.2K	1	R87	ERJ3GEYJ100	10	1
R14	ERJ3GEYOR00	0	1	R88	ERJ3GEYJ103	10K	1
R15	ERJ3GEYJ104	100K	1	R89	ERJ3GEYJ103	10K	1
R16	ERJ3GEYJ473	47K	1	R90	ERJ3GEYJ104	100K	1
R17	Not Used			R91	ERJ3GEYJ104	100K	1
R18	ERJ3GEYJ564	560K	1	R92	ERJ3GEYJ104	100K	1
R19	ERJ3GEYJ103	10K	1	R93	ERJ3GEYJ104	100K	1
R20	ERJ3GEYJ183	18K	1	R94	ERJ3GEYJ103	10K	1
R21	ERJ3GEYJ223	22K	1	R95	ERJ3GEYJ103	10K	1
R22	ERJ3GEYJ183	18K	1	R96	ERJ3GEYOR00	0	1
R23	ERJ3GEYJ104	100K	1	R97	ERJ3GEYOR00	0	1
R24	ERJ3GEYJ184	180K	1	R98	ERJ3GEYOR00	0	1
R25	ERJ3GEYJ823	82K	1	R99	ERJ3GEYOR00	0	1
R26	ERJ3GEYJ333	33K	1	R100	ERJ3GEYJ101	100	1
R27	ERJ3GEYJ562	5.6K	1	R101	ERJ3GEYJ101	100	1
R28	ERJ3GEYOR00	0	1	R102	ERJ3GEYJ101	100	1
R29	ERJ3GEYJ472	4.7K	1	R103	ERJ3GEYJ101	100	1
R30	ERJ3GEYJ274	270K	1	R104	ERJ3GEYJ100	10	1
R31	ERJ3GEYJ103	10K	1	R105	Not Used		
R32	Not Used			R106	ERJ3GEYJ820	82	1
R33	ERJ3GEYJ222	2.2K	1	R107	ERJ3GEYJ220	22	1
R34~36	Not Used			R108	ERJ3GEYJ101	100	1
R37	ERJ3GEYOR00	0	1	R109	Not Used		
R38	ERJ3GEYJ105	1M	1	R110	ERJ3GEYJ102	1K	1
R39	ERJ3GEYJ102	1K	1	R111	Not Used		
R40	Not Used			R112	ERJ3GEYJ102	1K	1
R41	ERJ3GEYJ100	10	1	R113~115	Not Used		
R42	ERJ3GEYJ100	10	1	R116	ERJ3GEYJ224	220K	1
R43	Not Used			R117	ERJ3GEYJ271	270	1
R44	ERJ3GEYJ100	10	1	R118	ERJ3GEYJ392	3.9K	1
R45	ERJ3GEYJ100	10	1	R119	Not Used		
R46	ERJ3GEYJ102	1K	1	R120	PQ4R10XJ000	0	1
R47	ERJ3GEYJ102	1K	1	R121	PQ4R10XJ000	0	1
R48	ERJ3GEYJ102	1K	1	R122	Not Used		
R49	ERJ3GEYJ102	1K	1	R123	ERJ3GEYJ102	1K	1
R50	Not Used			R124	ERJ3GEYJ102	1K	1
R51	ERJ2GEJ124	120K	1	R125	ERJ3GEYJ102	1K	1
R52	Not Used			R126	ERJ3GEYJ102	1K	1
R53	ERJ2GEJ563	56K	1	R127	ERJ3GEYJ102	1K	1
R54	Not Used			R129	Not Used		
R55	ERJ3GEYJ273	27K	1	R130	ERJ3GEYJ562	5.6K	1
R56	Not Used			R131	ERJ3GEYOR00	0	1
R57	ERJ2GEJ153	15K	1	R132	ERJ3GEYOR00	0	1
R58	Not Used			R133~139	Not Used		
R59	Not Used			R140~148	Not Used		
R60	ERJ3GEYJ102	1K	1	R149	ERJ3GEYJ183	18K	1
R61	ERJ3GEYJ102	1K	1	R150~152	Not Used		
R62	ERJ3GEYJ222	2.2K	1	R153	ERJ3GEYOR00	0	1
R63	ERJ3GEYJ334	330K	1	R154	Not Used		
R64	ERJ3GEYJ103	10K	1	R155	ERJ3GEYJ823	82K	1
R65	ERJ3GEYJ472	4.7K	1				
R66	ERJ3GEYJ124	120K	1				

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Ref. No.	Part No.	Value	Pcs/Set	Ref. No.	Part No.	Value	Pcs/Set
R156	Not Used			R332	ERJ2GEJ103	10K	1
R157	ERJ3GEY0R00	0	1	R333	ERJ2GEJ103	10K	1
R158	Not Used			R334	ERJ2GEJ103	10K	1
R159	ERJ3GEYJ103	10K	1	R335	ERJ2GEJ103	10K	1
				R336	ERJ2GEJ103	10K	1
R160~163	Not Used			R337~349	Not Used		
R164	ERJ3GEYJ154	150K	1				
R165	ERJ3GEYJ183	18K	1	R350	PQ4R10XJ225	2.2M	1
R166	ERJ3GEYJ152	1.5K	1				
R167	ERJ3GEYJ562	5.6K	1				
R168	ERJ3GEY0R00	0	1				
R169	ERJ3GEY0R00	0	1				
R170	Not Used						
R171	Not Used						
R172	ERJ3GEYJ222	2.2K	1				
R173	ERJ3GEYJ101	100	1				
R174	ERJ3GEYJ222	2.2K	1				
R175	ERJ3GEYJ102	1K	1				
R176	ERJ3GEYJ104	100K	1				
R177	ERJ3GEYJ152	1.5K	1				
R178	ERJ3GEY0R00	0	1				
R179	ERJ3GEYJ102	1K	1				
R180	ERJ3GEYJ824	820K	1				
R181	ERJ3GEYJ681	680	1				
R182	ERJ3GEYJ102	1K	1				
R183	ERJ3GEYJ103	10K	1				
R184~189	Not Used						
R190~194	Not Used						
R195	ERJ3GEY0R00	0	1				
R196	ERJ3GEYJ102	1K	1				
R197	PQ4R10XJ221	220	1				
R198~299	Not Used						
R300	Not Used						
R301	ERJ2GEJ103	10K	1				
R302	ERJ2GEJ103	10K	1				
R303	ERJ2GEJ103	10K	1				
R304	ERJ2GEJ103	10K	1				
R305	ERJ2GEJ103	10K	1				
R306	ERJ2GEJ103	10K	1				
R307	ERJ2GEJ103	10K	1				
R308	ERJ2GEJ103	10K	1				
R309	ERJ2GEJ103	10K	1				
R310	ERJ2GEJ103	10K	1				
R311	ERJ2GEJ103	10K	1				
R312	ERJ2GEJ103	10K	1				
R313	ERJ2GEJ103	10K	1				
R314	ERJ2GEJ103	10K	1				
R315	ERJ2GEJ103	10K	1				
R316	ERJ2GEJ103	10K	1				
R317	ERJ2GEJ103	10K	1				
R318	ERJ2GEJ103	10K	1				
R319	ERJ2GEJ103	10K	1				
R320	ERJ2GEJ103	10K	1				
R321	ERJ2GEJ103	10K	1				
R322	ERJ2GEJ103	10K	1				
R323	ERJ2GEJ103	10K	1				
R324	ERJ2GEJ103	10K	1				
R325	ERJ2GEJ103	10K	1				
R326	ERJ2GEJ103	10K	1				
R327	ERJ2GEJ103	10K	1				
R328	ERJ2GEJ103	10K	1				
R329	ERJ2GEJ103	10K	1				
R330	ERJ2GEJ103	10K	1				
R331	ERJ2GEJ103	10K	1				

Ref. No.	Part No.	Value	Pcs/Set
		(CAPACITORS)	
C1	ECST0GX476	47	1
C2	ERJ3GEYJ392	3.9K	1
C3	PQCUV1E104MD	0.1	1
C4	PQCUV1E104MD	0.1	1
C5	ECUV1H123KBV	0.012	1
C6	ECUV1H123KBV	0.012	1
C7	PQCUV1C224ZF	0.22	1
C8	ECST0JY106	10	1
C9	ECST0JY335	3.3	1
C10	PQCUV1E104MD	0.1	1
C11	ECST0GY226	22	1
C12	PQCUV1E104MD	0.1	1
C13	ECUV1H220JCV	22P	1
C14	ECUV1H180JCV	18P	1
C15	ECUV1H102KBV	1000P	1
C16	ECUV1H153KBV	0.015	1
C17	ECUV1H153KBV	0.015	1
C18	ECUV1H101JCV	100P	1
C19	ECUV1H102KBV	1000P	1
C20	PQCUV1C105ZF	1	1
C21	ECUV1H822KBV	0.0082	1
C22	ECST0JX226	22	1
C23	PQCUV1E104MD	0.1	1
C24	PQCUV1E104MD	0.1	1
C25	ECUV1H103KBV	0.01	1
C26	PQCUV1H103KB	0.01	1
C27	PQCUV1H223MD	0.022	1
C28	ECST0JY475	4.7	1
C29	ECST0JY106	10	1
C30	ECST0JY475	4.7	1
C31	PQCUV1E104MD	0.1	1
C32	ECST0JY106	10	1
C33	PQCUV1E104MD	0.1	1
C34	PQCUV1C105ZF	1	1
C35	PQCUV1C105ZF	1	1
C36	ECST0JY106	10	1
C37	PQCUV1E104MD	0.1	1
C38	PQ4R10XJ000	0	1
C39	Not Used		
C40	ECUV1H180JCV	18P	1
C41	PQCUV1H103KB	0.01	1
C42	Not Used		
C43	PQCUV1E104MD	0.1	1
C44	ECUV1E104ZFY	0.1	1
C45	ECUV1H103KBV	0.01	1
C46	Not Used		
C47	ECEA0JK221	220	1
C48	Not Used		

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Ref. No.	Part No.	Part Name & Description	Pcs/Set	Ref. No.	Part No.	Value	Pcs/Set
C49	ECST0GY226	22	1	L201	PQLQR2N1R0KT	(COILS)	
C50	ECST0JY106	10	S 1	L202	PQLQR2N1R0KT	COIL	1
C51	ECST0GY226	22	1	L203	PQLQR2M4N7K	COIL	1
C52-59	Not Used			L204	MLRE10NJF	COIL	1
C60	Not Used			L206	MLRE12NJF	COIL	1
C61	ECUV1H180JCV	18P	1	L207	MLRE10NJF	COIL	1
C62	ECST0JX226	22	1	L208	MLRE10NJF	COIL	1
C63	PQCUV1H683MD	0.068	S 1	L209	PQLQR2M4N7K	COIL	1
C64	PQCUV1C105ZF	1	S 1	L210	PQLQR2M4N7K	COIL	1
C65	PQCUV1H473MD	0.047	1	L213	PQLQR2M4N7K	COIL	1
C66	ECST0JY106	10	S 1	L220	MLRE10NJF	COIL	1
C67	PQCUV1C105ZF	1	S 1				
C68	PQCUV1C105ZF	1	S 1	L221	PQLQR2M8N2KT	COIL	1
C69	PQCUV1C105ZF	1	S 1	C233	MLRE10NJF	COIL	1
C70	PQCUV1C105ZF	1	S 1				
C71	ECUV1H222KBV	0.0022	1			(OSCILLATORS)	
C72	Not Used			VC0201	PQV022Z	OSCILLATOR	1
C73	Not Used			VC0202	PQV021Z	OSCILLATOR	1
C74	ECUV1H680JCV	68P	1				
C75	PQCUV1C105ZF	1	1			(SAW FILTERS)	
C76	ECUV1H153KBV	0.015	S 1	F201	PQVCM21M8PJ2	CERAMIC FILTER	1
C77	ECST0JX226	22	1	F202	PQVSM914E11L	CERAMIC FILTER	1
C78	PQCUV1C105ZF	1	S 1	F203	PQVSM959E11L	CERAMIC FILTER	1
C79	Not Used			F204	EZFN959AM01	CERAMIC FILTER	1
C80	PQ4R10XJ000	0	1				
C81	PQCUV1C105ZF	1	S 1			(OTHERS)	
C82	PQCUV1C105ZF	1	S 1	VC201	PQCVTZB10ZA	TRIMMER CAPACITOR	1
C83-99	Not Used			X201	PQVC01280N4Z	CRYSTAL OSCILLATOR	1
C100	PQCUV1C105ZF	1	S 1	CN201	PQJS10A82Z	CONNECTOR	1
C101-199	Not Used						
C200	ECUV1H100DCV	10P	S 1				
C201	ECUV1E104ZFV	0.1	S 1				
C202	ECUV1H561JCV	560P	1				
J1	ECUV1H222KBV	2200P	1				
RF UNIT PARTS							
PCB200	PQLP10154S	P.C.BOARD ASS'T (RTL)	1				
		(ICS)					
IC201	PQVIM64084GP	IC	1	R201	ERJ3GEYJ100	10	1
IC202	PQVIPC2746TE	IC	1	R202	ERJ3GEYJ150	15	1
				R203	ERJ3GEYJ102	1K	1
				R204	ERJ3GEYJ153	15K	1
				R205	ERJ3GEYJ153	15K	1
				R206	ERJ3GEYJ563	56K	1
				R207	ERJ3GEYJ470	47	1
				R208	ERJ3GEYJ104	100K	1
				R209	ERJ3GEYJ272	2.7K	1
				R210	ERJ3GEYJ104	100K	1
				R211	ERJ3GEYJ122	1.2K	1
				R212	ERJ3GEYJ561	560	1
				R213	ERJ3GEYJ470	47	1
				R214	ERJ3GEYJ104	100K	1
				R215	ERJ3GEYJ561	560	1
				R216	Not Used		
				R217	Not Used		
				R218	ERJ3GEYJ000	0	1
				R219	ERJ3GEYJ123	12K	1
				R220	ERJ3GEYJ470	47	1
				R221	ERJ3GEYJ100	10	1
				R222	ERJ3GEYJ103	10K	1
				R223	ERJ3GEYJ683	68K	1
				R224	ERJ3GEYJ683	68K	1

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Ref. No.	Part No.	Value	Pcs/Set	Ref. No.	Part No.	Part Name & Description	Pcs/Set
R225	ERJ3GEYJ470	47	1	C237	Not Used		
R226	ERJ3GEYJ470	47	1	C238	ECUV1H040CCV	4P	1
R227	ERJ3GEYJ100	10	1	C239	ECUV1H020CCV	2P	1
R228	ERJ3GEYJ561	560	1	C240	ECUV1H040CCV	4P	1
R229	ERJ3GEYJ560	56	1	C241	ECUV1H102KBV	0.001	1
R230	ERJ3GEYJ563	56K	1	C242	ECUV1H102KBV	0.001	1
R231	ERJ3GEYJ153	15K	1	C243	Not Used		
R232	ERJ3GEYJ153	15K	1	C244	ECUV1H102KBV	0.001	1
R233	ERJ3GEYJ470	47	1	C245	ECUV1H101JCV	100P	1
R234	ERJ3GEYJ100	10	1	C246	ECUV1H020CCV	2P	1
R235-239	Not Used			C247	ECUV1E104ZFV	0.1	1
R240	ERJ3GEYJ272	2.7K	1	C248	Not Used		
R241-259	Not Used			C249	ECST0JX226	22	1
R260	Not Used			C250	Not Used		
R261	ERJ3GEYJ000	0	1	C251	ECUV1H102KBV	0.001	1
R262-269	Not Used			C252	ECUV1C224KB	0.22	1
R270	ERJ3GEYJ000	0	1	C253	ECUV1H562KBV	0.0056	1
				C254	ECUV1H562KBV	0.0056	1
				C255-259	Not Used		
				C260	Not Used		
				C261	Not Used		
				C262	ECUV1H101JCV	100P	1
				L205	ECUV1H101JCV	100P	1
		(CAPACITORS)					
C200	ECUV1H101JCV	100P	1				
C201	Not Used						
C202	ECST0JX226	22	S 1				
C203	PQCUV1C105ZF	1	1				
C204	ECUV1H101JCV	100P	1				
C205	ECUV1H332KBV	0.0033	1				
C206	ECUV1H472KBV	0.0047	1				
C207	ECUV1H332KBV	0.0033	1				
C208	ECUV1H332KBV	0.0033	1				
C209	ECUV1E104ZFV	0.1	S 1				
C210	ECUV1H103KBV	0.01	1				
C211	ECST0JX226	22	S 1				
C212	ECUV1H103KBV	0.01	1				
C213	ECUV1H101JCV	100P	1				
C214	Not Used						
C215	ECUV1H040CCV	4P	1				
C216	ECUV1H103KBV	0.01	1				
C217	ECUV1H270JCV	27P	1				
C218	ECUV1E104ZFV	0.1	S 1				
C219	Not Used						
C220	ECUV1H020CCV	2P	1				
C221	Not Used						
C222	ECUV1H100DCV	10P	S 1				
C223	ECUV1H270JUV	27P	1				
C224	ECUV1H270JUV	27P	1				
C225	Not Used						
C226	Not Used						
C227	ECUV1H102KBV	0.001	1				
C228	ECUV1H040CCV	4P	1				
C229	ECUV1H102KBV	0.001	1				
C230	ECUV1H040CCV	4P	1				
C231	Not Used						
C232	ECUV1H102KBV	0.001	1				
C234	Not Used						
C235	ECUV1H101JCV	100P	1				
C236	Not Used						

Ref. No.	Part No.	Part Name & Description	Pcs/Set
C237	Not Used		
C238	ECUV1H040CCV	4P	1
C239	ECUV1H020CCV	2P	1
C240	ECUV1H040CCV	4P	1
C241	ECUV1H102KBV	0.001	1
C242	ECUV1H102KBV	0.001	1
C243	Not Used		
C244	ECUV1H102KBV	0.001	1
C245	ECUV1H101JCV	100P	1
C246	ECUV1H020CCV	2P	1
C247	ECUV1E104ZFV	0.1	1
C248	Not Used		
C249	ECST0JX226	22	1
C250	Not Used		
C251	ECUV1H102KBV	0.001	1
C252	ECUV1C224KB	0.22	1
C253	ECUV1H562KBV	0.0056	1
C254	ECUV1H562KBV	0.0056	1
C255-259	Not Used		
C260	Not Used		
C261	Not Used		
C262	ECUV1H101JCV	100P	1
L205	ECUV1H101JCV	100P	1

KX-T9300DM

ACCESSORIES

A1	KX-A35G-1	AC ADAPTOR	1
A2	PQJA10032Z	TELEPHONE CORD	1
A3	PQKC10003Z1	BELT CLIP	1
A4	PQKK10045Z1	BATTERY COVER (for BASE UNIT)	1
A5	PQKK10046Z1	BATTERY COVER (for PORTABLE UNIT)	1
A6	PQXX11457Z	INSTRUCTION BOOK	1
A7			
A8	PQQT11240Z	TEL CARD LABEL	1

PACKING MATERIALS

P1	XZB20X35A01	PROTECTION COVER (for BASE UNIT)	1
P2	XZB10X25A02	PROTECTION COVER (for PORTABLE UNIT)	1
P3	PQPN10362Z	INNER BOX	1
P4	PQPN10363Z	ACCESSORY BOX	1
P5	PQPK11909Z	GIFT BOX	1

FIXTURE AND TOOL

Z1	PQZZ10K13Z	EXTENSION CORD, 10P	2
Note: PQZZ10K13Z is neccessity for servicing.			

Service Manual

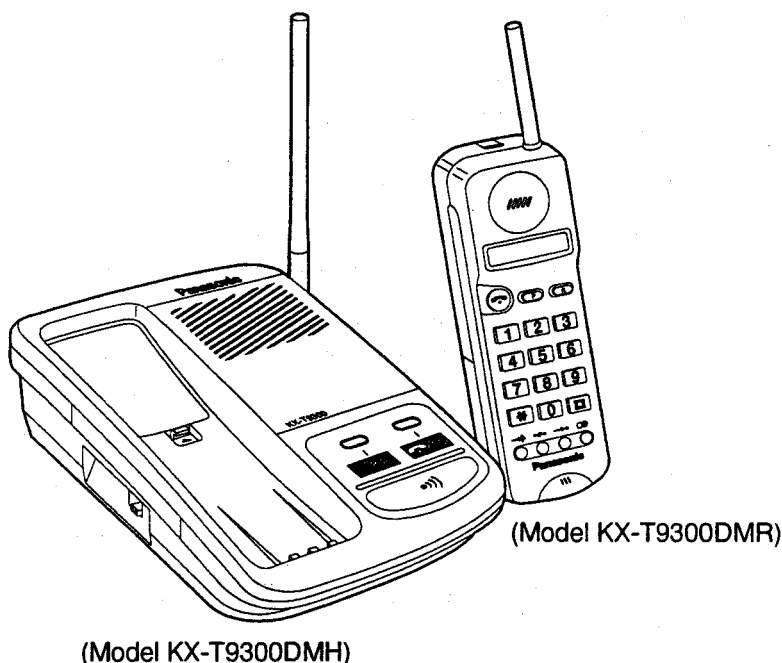
and Technical Guide

WIRELESS PHONE

Telephone Equipment

KX-T9300DM

(for Denmark)



(Model KX-T9300DMH)

(Model KX-T9300DMR)

■ SPECIFICATIONS

	Base Unit (KX-T9300DMH)	Portable Handset (KX-T9300DMR)
Power Source:	AC Adaptor (KX-A35G-1)	Rechargeable Ni - Cd battery
Receiving Frequency:	40 channels within 914.0125 ~914.9875 MHz	40 channels within 959.0125 ~959.9875MHz
Receiving Method:	Double super heterodyne	Double super heterodyne
Transmitting Frequency:	40 channels within 959.0125 ~959.9875 MHz	40 channels within 914.0125 ~914.9875 MHz
Oscillation Method:	PLL synthesizer	PLL synthesizer
Detecting Method:	Quadrature Discriminator	Quadrature Discriminator
Tolerance of OSC Frequency:	±2.5 kHz	±2.5 kHz
Modulation Method:	F3 (frequency modulation)	F3 (frequency modulation)
ID Code:	20-bit written in ROM	20-bit written in ROM
Dial Mode:		Tone (DTMF)/Pulse
Redial:		Up to 30 digits
Save:		Up to 30 digits
Power Consumption:		20 hrs at Standby, 3 hrs at Talk
Dimension (H×W×D):	2 ¹ / ₈ "×5 ²⁷ / ₃₂ "×7 ¹⁵ / ₃₂ " (54×148×190 mm)	7 ⁷ / ₈ "×2 ⁵ / ₃₂ "×1 ¹³ / ₃₂ " (200×55×36 mm)
Weight	0.95 lbs. (430g) with battery	0.51 lbs. (230g) with battery

Design and specifications are subject to change without notice.

Panasonic

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⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

When you mention the serial number, write down all 11 digits. The serial number may be found on the label affixed to the bottom of the unit.

FOR SERVICE TECHNICIANS

ICs and LSIs are vulnerable to static electricity.

When repairing, the following precautions will help prevent recurring malfunctions.

1. Cover plastic parts boxes with aluminum foil.
2. Ground the soldering irons.
3. Use a conductive mat on worktable.
4. Do not grasp IC or LSI pins with bare fingers.

CAUTION

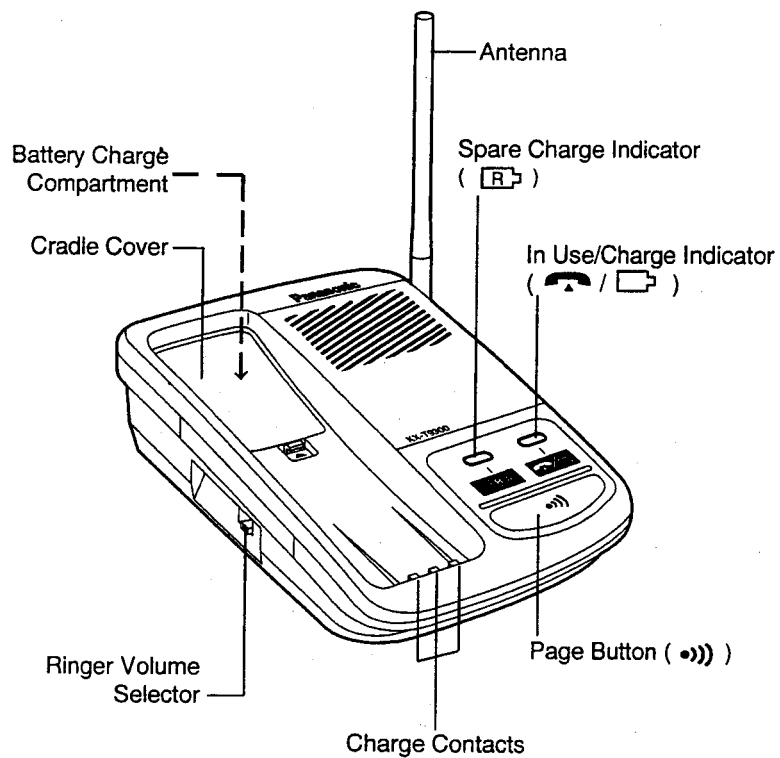
**Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type recommended
by the manufacturer. Dispose of used batteries according
to the manufacture's instructions.**

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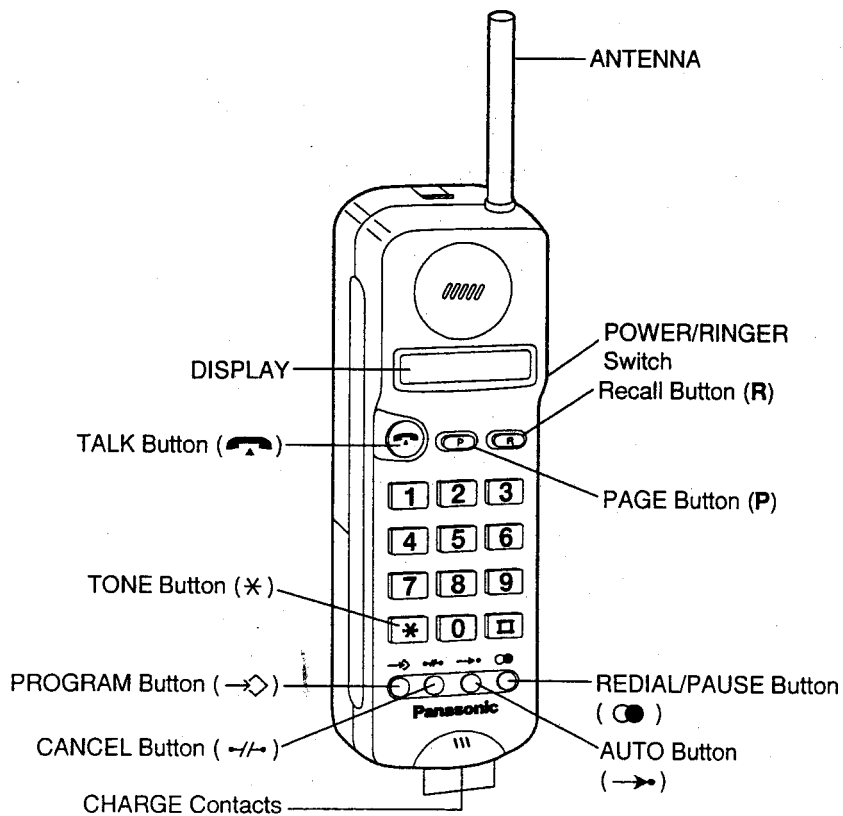
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LOCATION OF CONTROLS

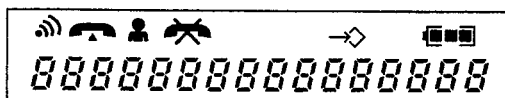
Base Unit (KX-T9300DMH)



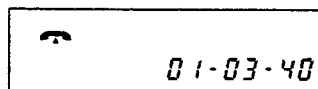
Portable Handset (KX-T9300DMR)



Display



(This display shows all the possible configurations.)



The call duration is displayed during a conversation.
(Example: 1 hour 3 minutes 40 seconds)



The unit is in programming mode.



The unit is in the direct call mode.



(flashing)

You are paging the other unit, or vice versa.



The unit is in the outgoing call restriction mode.



The unit is making or answering a call.



(flashing)

The handset battery needs charging.



(flashing)

An outside call is coming.

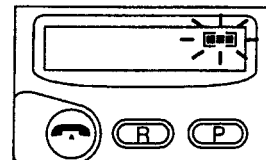
STANDARD BATTERY LIFE

If your Panasonic battery is fully charged:

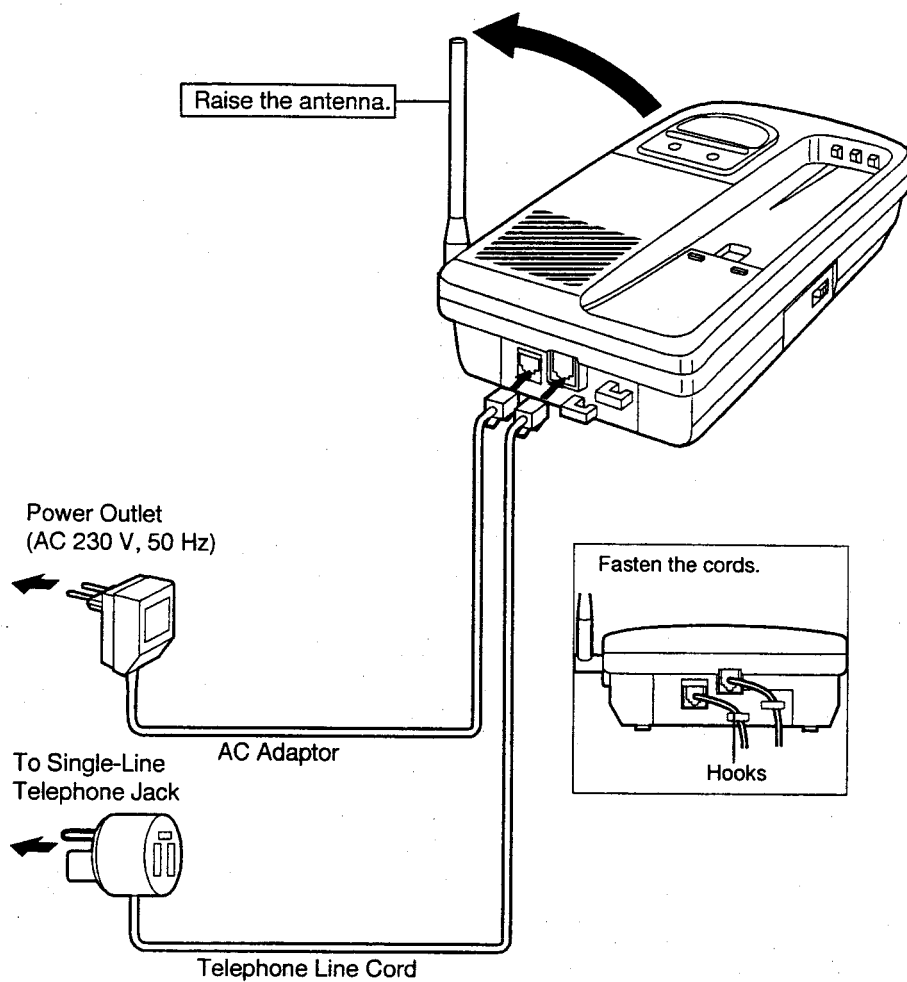
While the phone is in use (TALK)	Up to about 4 hours
While the phone is not is use (Stand-By)	Up to about 50 hours

(Battery life may vary depending on usage conditions and ambient temperature.)

Recharge the handset battery, when " " flashes or beep tones sound every 15 seconds during a conversation.



CONNECTION

**Notes:**

- USE ONLY Panasonic AC ADAPTOR KX-A35G-1.
- The AC adaptor must remain connected at all times. (It may feel warm during use. This is normal.)
- If you connect a reserve telephone on the same line.

DISASSEMBLY INSTRUCTIONS

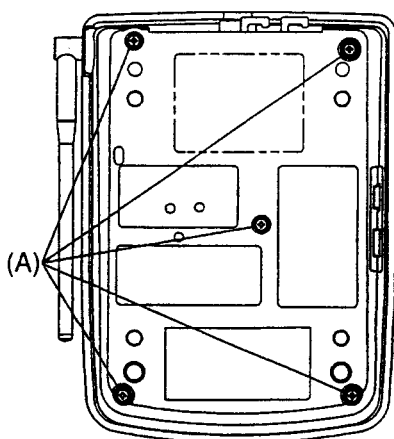
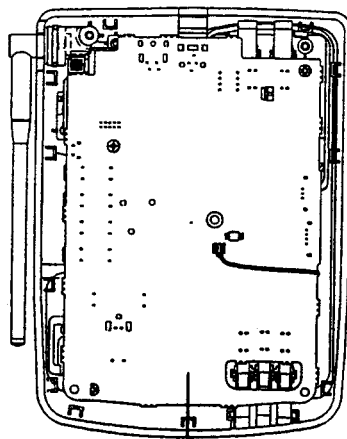


Fig. 1



Remove the P.C. Board

Fig. 2

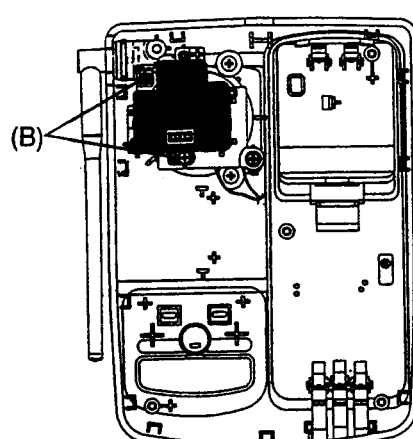
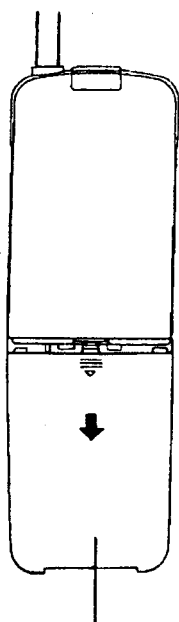
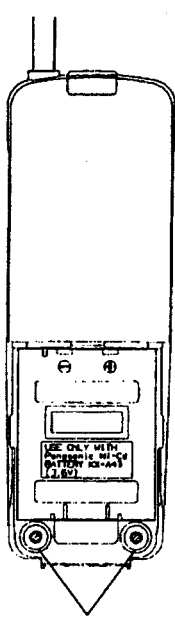


Fig. 3



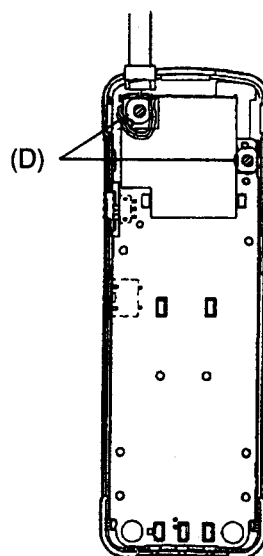
Remove the Battery Cover

Fig. 4



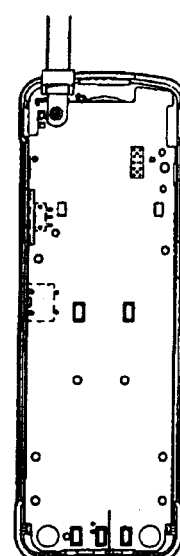
(C)

Fig. 5



(D)

Fig. 6



Remove the P.C. Board

Fig. 7

Ref No.	Procedure	Shown in Fig. -	To Remove	Remove
1	1	1	Lower Cabinet	Screws (3 -12)..... (A) -5
2	1, 2	2	Main P.C. Board	Remove the P.C. Board
3	1~3	3	RF Unit	Screws (3 -10)..... (B) -2
4	5	4	Battery Cover	Remove the Battery Cover
5	5, 6	5	Rear Cabinet	Screws (2.6 -12)..... (C) -2
6	5~7	6	RF Unit	Screws (2.6 -12)..... (D) -2
7	5~8	7	P.C. Board	Remove the P.C. Board

HOW TO REPLACE FLAT PACKAGE IC

■ PREPARATION

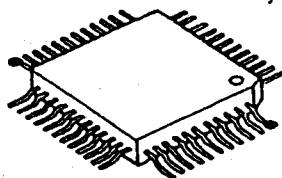
- SOLDER - - - - - Sparkle Solder 115A-1, 115B-1
OR
Almit Solder KR-19, KR-19RMA
- Soldering iron - - - - - Recommended power consumption will be between 30 W to 40 W.
Temperature of Copper Rod 662 \pm 50 °F (350 \pm 10°C)

(An expert may handle 60~80 W iron, but beginner might damage foil by overheating.)
- Flux - - - - - HI115 Specific gravity 0.863

(Original flux will be replaced daily.)

■ PROCEDURE

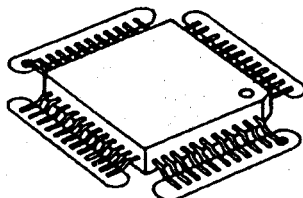
1. Temporary fix FLAT PACKAGE IC by soldering on two marked 2 pins.



● - - - - - Temporary soldering point.

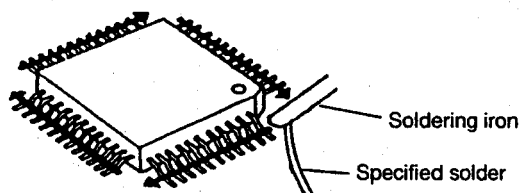
*Most important matter is accurate setting of IC to the corresponding soldering foil.

2. Apply flux for all pins of FLAT PACKAGE IC.



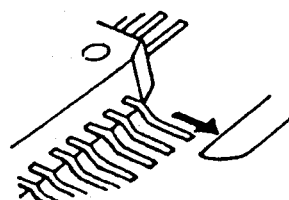
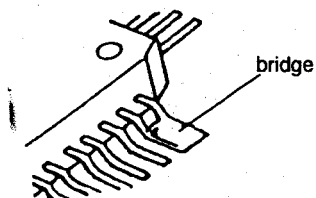
○ - - - - - Flux

3. Solder employing specified solder to direction of arrow, as sliding the soldering iron.



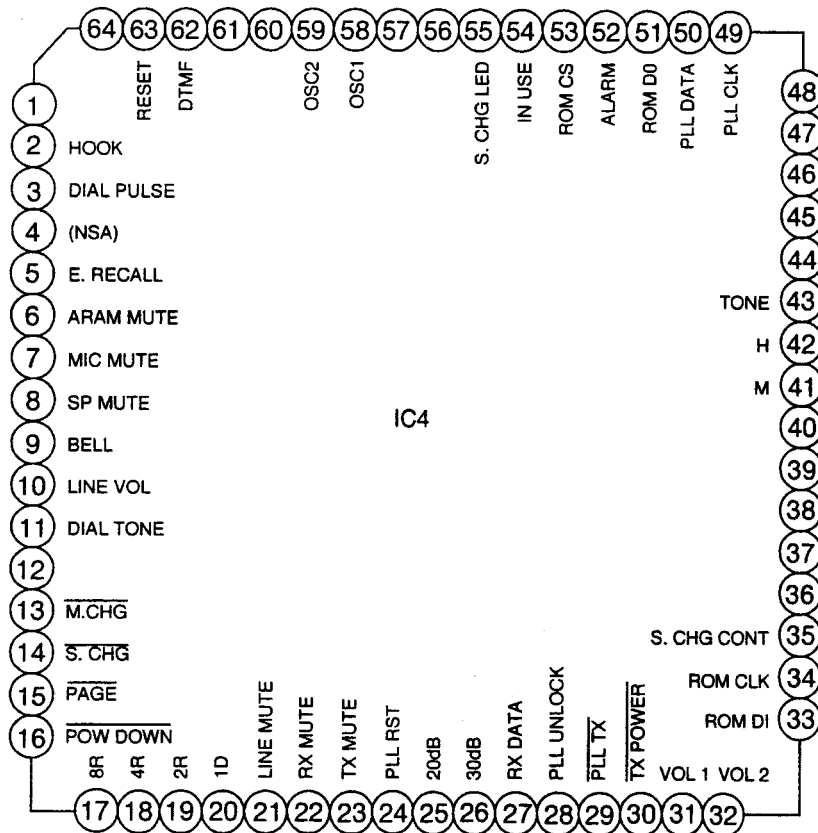
■ MODIFICATION PROCEDURE OF BRIDGE

1. Re-solder slightly on bridged portion.
2. Remove remained solder along pins employing soldering iron as shown in below figure.



CPU DATA KX-T9300DMH (BASE UNIT)

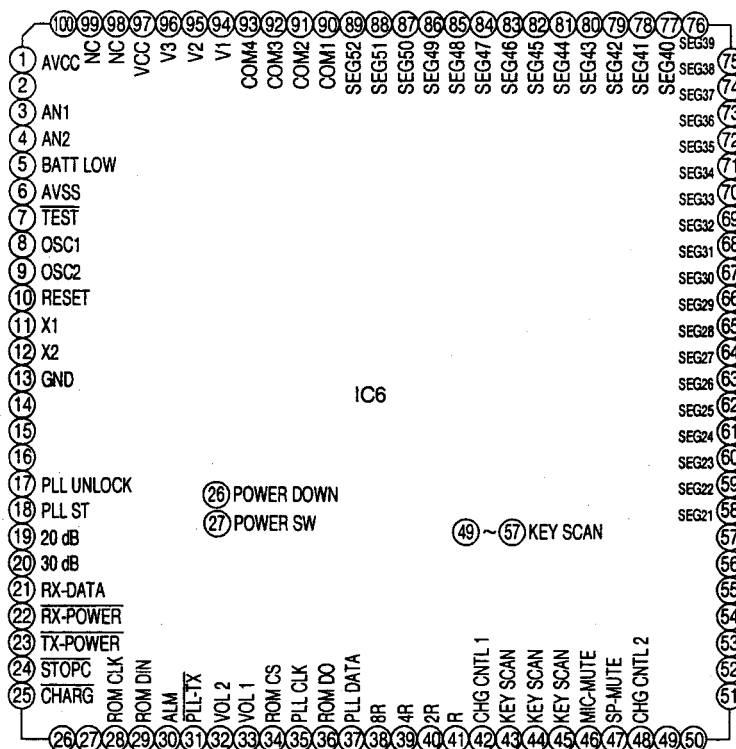
IC4 MN150808KJAK



Pin	Description	I/O	High	High-Z	Low	Pin	Description	I/O	High	High-Z	Low
1	(0.12 mA RLY)	O	ON			33	ROM-DIN	O			
2	HOOK RLY	O	ON			34	ROM-CLK	O			
3	DP	O	MAKE		BREAK	35	Spare-CHARGE CTL	O	Normal		Trickle
4	(NSA)	O	ON			36					
5	(EARTH RLY)	O	ON			37	Strobe 2	O			Strobe
6	ALARM MUTE	O	ON			38	Strobe 3	O			Strobe
7	MIC MUTE	O	ON			39	Strobe 4	O			Strobe
8	SP MUTE	O	ON			40	Strobe 5	O			Strobe
9	BELL	I	BELL Reception			41	KEY DATA IN	I	Normal		Key IN
10	LINE VOL	I	Without VOL		With VOL	42	KEY DATA IN	I	Normal		Key IN
11	DIAL TONE	I	With TONE		Without TONE	43	KEY DATA IN	I	Normal		Key IN
12					Normal	44	KEY DATA IN	I	Normal		Key IN
13	CHARGE	I			CHARGE	45					
14	Spare-CHARGE	I			CHARGE	46					
15	PAGE KEY	I			P.DOWN	47					
16	POWER DOWN	I	Normal		P.DOWN	48					
17	TX DATA 8R	O				49	PLL-CLK	O			
18	TX DATA 4R	O				50	PLL-DATA	O			
19	TX DATA 2R	O				51	ROM-DOUT	I			
20	TX DATA R	O				52	ALARM	O	ON		
21	LINE MUTE	O	ON		Normal	53	ROM-CS	O	Active		Normal
22	RX MUTE	O	Normal		ON	54	IN USE LED	O	ON		
23	TX MUTE	O	ON		Normal	55	Spare CHARGE LED	O	ON		
24	PLL-RST	O	Normal		ON	56	External Interrupt Input	I	Normal		
25	FLS1 (20)	I	Weak electric field		Input Sens.	57	Vss				
26	FLS2 (30)	I	Weak electric field		Input Sens.	58	CPU Clock	I			
27	RX DATA	I				59	(3.581 MHz)	O			
28	PLL-UNLOCK	I	UNLOCK		LOCK	60	Power Source		Normal		
29	PLL-TX	O		Normal	ON	61	External Interrupt Input	I	Normal		
30	TX POWER	O		POW-OFF	POW-ON	62		O			
31	VOL. 1	O		OFF	ON	63	RESET Input	I	Normal		RESET
32	VOL. 2	O		OFF	ON	64					

CPU DATA KX-T9300DMR (PORTABLE HANDSET)

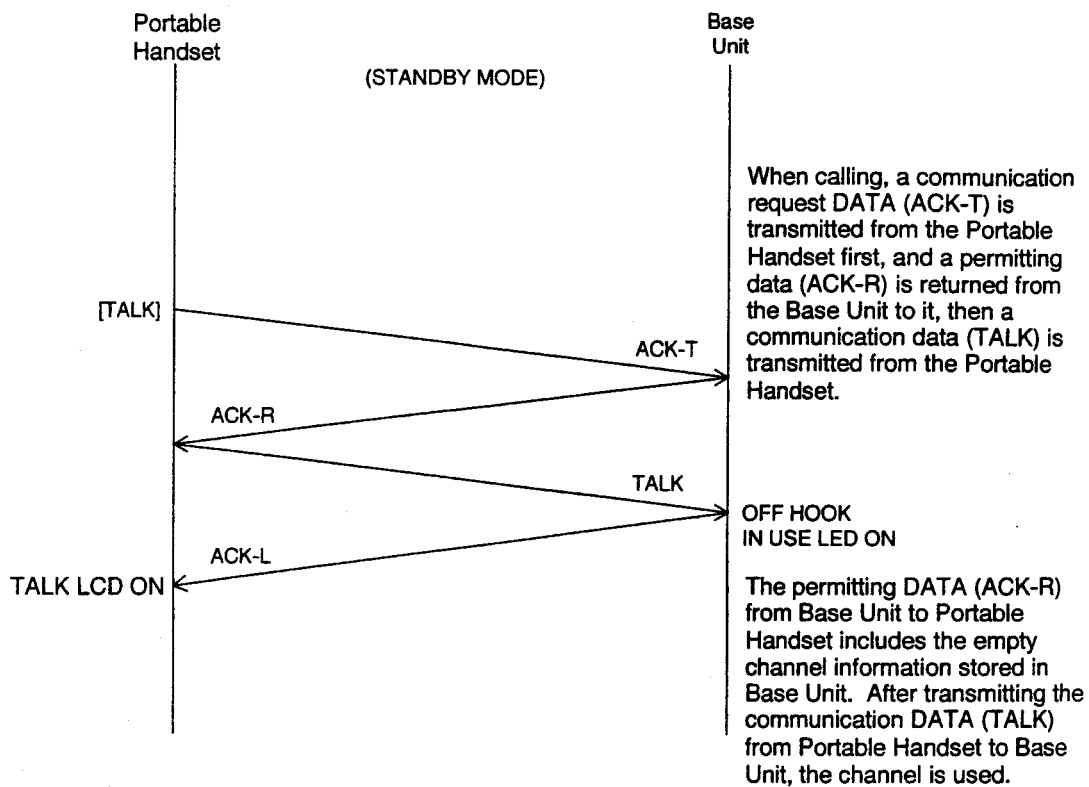
IC6 PQVI4829C23H



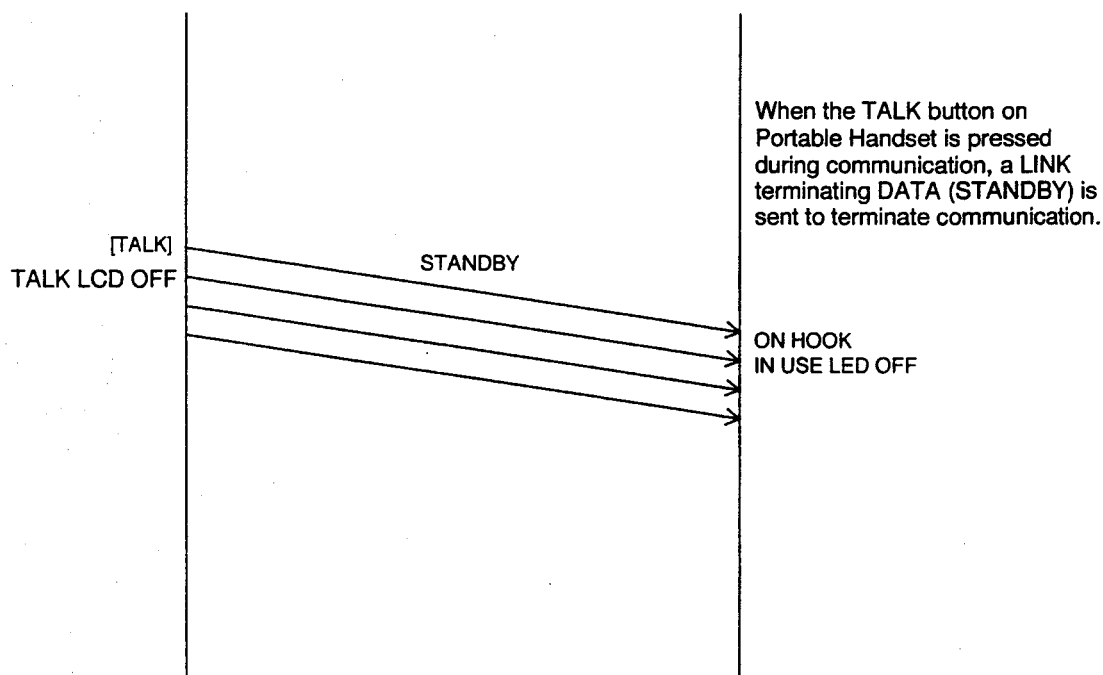
Pin	Description	I/O	High	High-Z	Low	Pin	Description	I/O	High	High-Z	Low
1			Normal	---	---	36	ID ROM-DOUT	I			
2			---	---	Normal	37	PLL-DATA	O			
3			---	---	Normal	38	TX DATA 8R	O			
4			---	---	Normal	39	TX DATA 4R	O			
5	BATT-LOW	I	---	---	---	40	TX DATA 2R	O			
6			---	---	Normal	41	TX DATA R	O			
7			Normal	---	---	42	CHGCTL1	O	Normal		Trickle
8	CPU Clock (4 MHz)	I				43	SW DATA IN	I			
9	RESET	I	RESET		Normal	44	SW DATA IN	I			
10	SUB Clock (32.768 kHz)	O				45	SW DATA IN	I			
11	GND		---	---	Normal	46	MIC-MUTE	I	ON		Normal
12			---	---	Normal	47	SP-MUTE	O	Normal		ON
13			---	---	Normal	48	(Not used)	O			Normal
14		I	Normal	---	---	49	Strobe	O			Strobe
15		O	---	---	Normal	50	Strobe	O			Strobe
16		O	---	---	Normal	51	Strobe	O			Strobe
17	PLL-UNLOCK	I	UNLOCK		LOCK	52	Strobe	O			Strobe
18	PLL-ST	O				53	Strobe	O			Strobe
19	FLS1 (20)	I	Weak electric field		Input Sens.	54	KEY DATA IN	I	Normal		Key IN
20	FLS2 (30)	I	Weak electric field		Input Sens.	55	KEY DATA IN	I	Normal		Key IN
21	RX DATA	I				56	KEY DATA IN	I	Normal		Key IN
22	RX-POW	O	---	Normal	ON	57	KEY DATA IN	I	Normal		Key IN
23	TX-POW	O	---	Normal	ON	58-89	SEG21-52	O			
24	STOPC					90	COM1	O			
25	CHARGE	I	Normal		CHARGE	91	COM2	O			
26	POWER DOWN	I	Normal		P. DOWN	92	COM3	O			
27	POWER SW	O	Normal		ON	93	COM4	O			
28	ID-ROM CLK	O				94			Normal	---	---
29	ID-ROM DIN	O				95					
30	ALARM	O		Normal		96					
31	PLL-TX	O	---	Normal	ON	97	Source		Normal	---	---
32	VOL. 1	O		---		98					
33	VOL. 2	O		---		99					
34	ID ROM-CS	O				100			---	---	Normal
35	PLL-CLK	O									

EXPLANATION OF CPU DATA COMMUNICATION

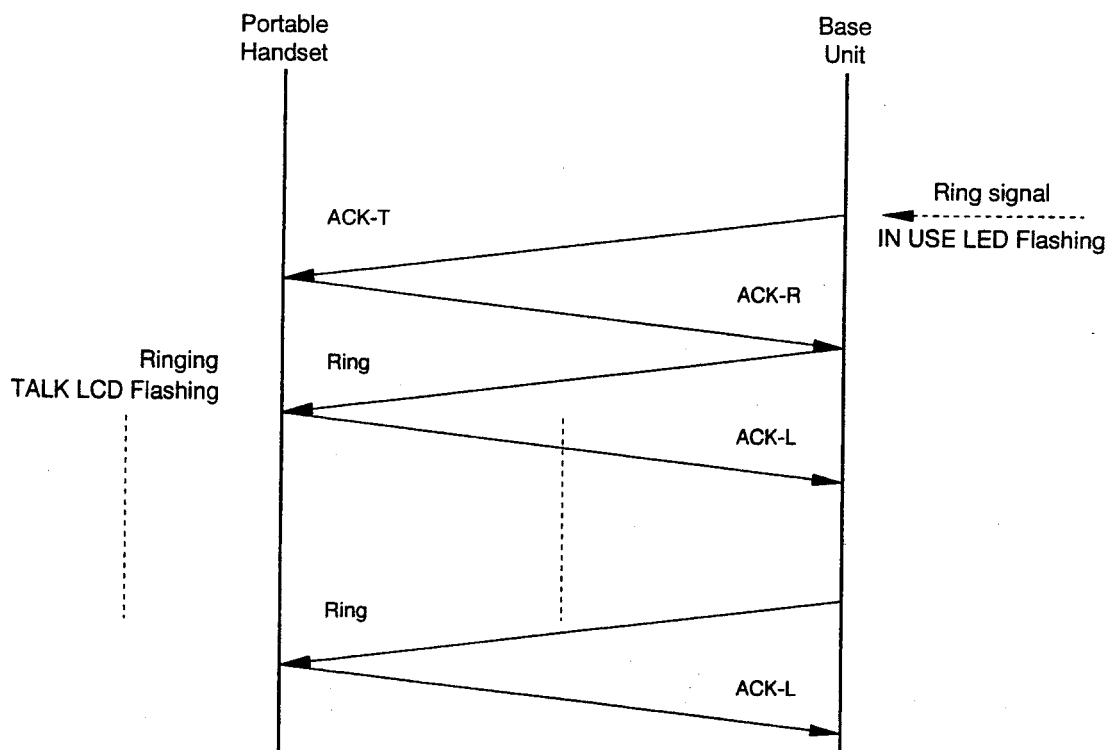
1. Calling



2. To terminate Communication



3. Ringing



After detecting the Ring signal from circuit, the Base Unit sends a LINK form requesting DATA (ACK-T) to the Portable Handset. When receiving this data, the Portable Handset returns a permitting DATA (ACK-R) to the Base Unit. After receiving the returned DATA from the Portable Handset, the Base Unit sends a ring signal DATA (Ring), then the Portable Handset starts ringing.

4. Ports for transmitting and receiving of data

Portable Handset : transmitting 38~41 Pin receiving 21 Pin

Base Unit : transmitting 17~20 Pin receiving 27 Pin

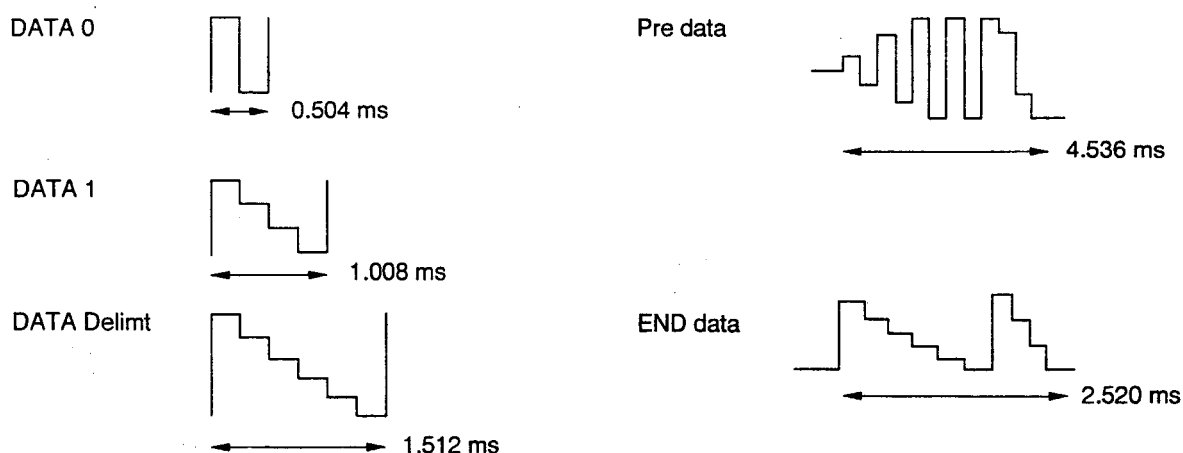
5. Wave form of DATA used for cordless transmission and reception

The DATA which is transmitted from the Portable Handset to the Base Unit is combination of DATA 0, DATA 1, DATA Delimt, Pre data and End data of P1.

The DATA which is transmitted from the Base Unit to the Portable Handset is combination of DATA 0, DATA 1, DATA Delimt, Pre data and End data of P2.

BASE UNIT PORTABLE HANDSET

Transmitting DATA Format



6. When LINKing

Base unit	Pre data	START	CHANNEL	ID CODE	CNT COD	SET No.	COMMAND	Parity	END
			8 bit	20 bit	4 bit	4 bit	8 bit	4 bit	
Portable Handset	Pre data	START	CHANNEL	ID CODE	SET No.	COMMAND	Parity	END	

When LINKing from the Portable Handset (when becoming STBY to TALK), DATA is transmitted in above format. The combined portion of DATA 0 and DATA 1 is transmitted in LINK requesting DATA format first. Then, when LINK OK (ACK-R) DATA is returned from the Base Unit, it is sent as LINK form DATA after changing the combination of DATA 0 and DATA 1. And the DATA Delimt is between each Frame as a stop.

The contents of LINK requesting DATA and LINK form DATA are different depending on each operation.

7. Dial Data

Portable Handset	START	ID CODE	COMMAND	Parity	END
	33 bit				

During dialing, the dial data is sent from the Portable Handset to the Base Unit in the above-mentioned format. The lower significant 4 bits of the command is changed by the dial number. When the key is kept depressed during tone dialing, the data (CONTINUE DATA) informing that the key is continued depressed is sent to the Base Unit.

NOTE

1,000,000 kinds of the security code are available for the model KX-T9300DM. Each time the portable unit is set on the cradle of the base unit (for charging), the CPU automatically change the security code.

FREQUENCY TABLE (MHz)


Base Unit TX Portable Handset RX			
CH		CH	
1	959.0125	21	959.5125
2	0375	22	5375
3	0625	23	5625
4	0875	24	5875
5	1125	25	6125
6	1375	26	6375
7	1625	27	6625
8	1875	28	6875
9	2125	29	7125
10	2375	30	7375
11	2625	31	7625
12	2875	32	7875
13	3125	33	8125
14	3375	34	8375
15	3625	35	8625
16	3875	36	8875
17	4125	37	9125
18	4375	38	9375
19	4625	39	9625
20	4875	40	9875



Base Unit RX Portable Handset TX			
CH		CH	
1	914.0125	21	914.5125
2	0375	22	5375
3	0625	23	5625
4	0875	24	5875
5	1125	25	6125
6	1375	26	6375
7	1625	27	6625
8	1875	28	6875
9	2125	29	7125
10	2375	30	7375
11	2625	31	7625
12	2875	32	7875
13	3125	33	8125
14	3375	34	8375
15	3625	35	8625
16	3875	36	8875
17	4125	37	9125
18	4375	38	9375
19	4625	39	9625
20	4875	40	9875

ADJUSTMENTS (KX-T9300DMH)

After servicing the RF unit, never make adjustments without assembling the upper RF unit cover and the lower RF unit cover with solder.

Adjustment Preparations

1. Connect the main P.C. Board to RF unit by the extension cord.
2. Connect a distortion meter (with AC voltmeter) to the telephone line output on the base unit.
3. While pressing SW1, set to SW2 to on.
4. After hearing "Pi" sound, release SW1.
5. Press twice  button (The unit becomes Test Mode on CH1 Talk)

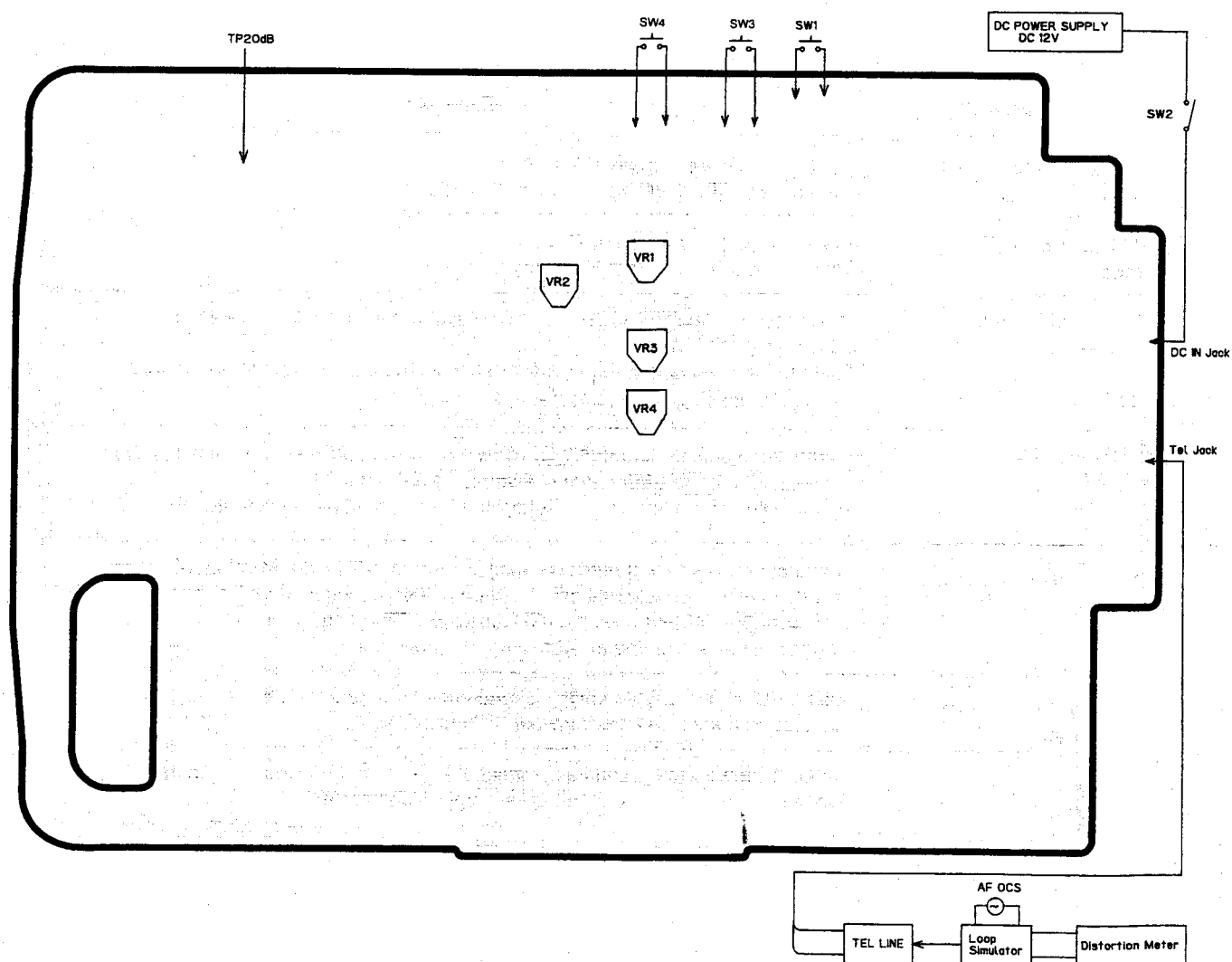
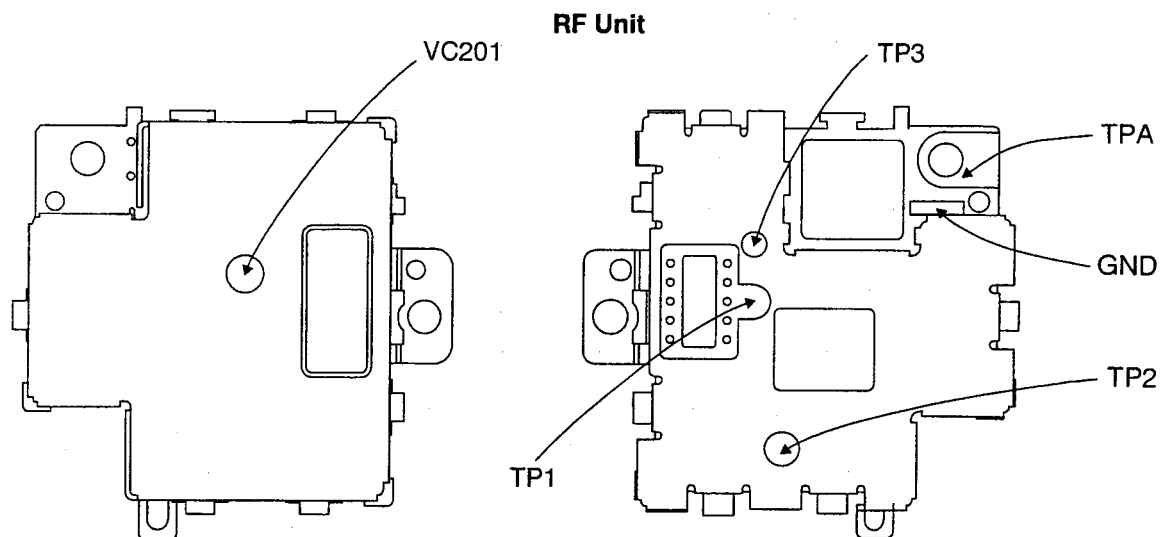
Note: When selecting optional channel (ex. CH23), press once  button after above preparations 4 item (Unit becomes CH01).
Next press twice SW3 (CH01 + CH02 = CH03) and press twice SW4 (CH03 + CH20 = CH23), then press once  button.
(Unit becomes Test Mode on CH23 Talk).

If your unit have below symptom, adjust for each item as table of adjustment on pages 14 and 15.

Symptom	Remedy
Dose not link between base unit and portable handset.	Adjust the adjustment items (A)~(D), (F), (G) and (H).
Transmission sound for receiver is unstable.	Adjust the adjustment items (E).
The operating distance between base unit and portable handset is less than normal.	Adjust the adjustment items (I).

Item	Adjustment Item	Procedure
(A)	RX VCO Voltage Check	Place the voltmeter probe at RF unit TP2. Confirm that TP2 's voltage is within 0.5 V~2.5 V.
(B)	TX VCO Voltage Check	Place the voltmeter probe at RF unit TP3. Confirm that TP3 's voltage is within 0.5 V~2.5 V.
(C)	20 dB Electric Field Adjustment	While reduced level of S.S.G. set S.S.G. level when distortion of telephone line sending signal is 30 %. Confirm the level is less than 5 dBμVemf. If so, adjust VR1 so that brightness is equivalent whichever TP20 dB High and Low.
(D)	Standard Frequency Adjustment	Adjust VC201 so that transmission frequency is set 959.0125 MHz (CH1)±0.5 kHz. Connect frequency counter between TPA and GND.
(E)	Telephone Line Output Level Adjustment	Connect the signal generator (914.0125 MHz, 1 kHz modulation frequency, 3 kHz modulation +60 dBμVemf output level) to the RF unit TPA and GND. Adjust VR3 so that telephone line output level is -3.0 dBm ± 1.0 dB.
(F)	Max Depth of Modulation Adjustment	Set the loop simulator to sending side. Adjust VR4 so that level is 4.6 kHz devi ± 0.2 kHz devi when input signal is follow. Line input signal : 1 kHz,+6 dBm/set load (1.55 V) RF input signal:+60 dBμVemf(1 mV, -53 dBm), 0 kHz devi Line current: 40 mA
(G)	Modulation Sensitivity Adjustment	Set the loop simulator to sending side. Adjust VR1 so that level is 2.7 kHz devi ± 0.2 kHz devi when input signal is follow. Line input signal: 1 kHz, -21 dBm/set load (70 mV) RF input signal:+60 dBμVemf(1 mV, -53 dBm), 0 kHz devi Line current : 30 mA
(H)	12.8MHz Transmitter confirmation	Connect the frequency counter between the TP1 and GND and confirm that the frequency is 12.8 MHz and that Vp-p is approximately 900 mV.
(I)	TX power Confirmation	Connect the Spectrum analyzer the TPA and GND and confirm that the level is +7 dBm ±3 dB (10 mW~2.5 mW) Typ. 5.0 mW.

Adjustment item (H) and (I) : Refer to page 58.



ADJUSTMENTS (KX-T9300DMR)

After servicing the RF unit, never make adjustments without assembling the upper RF unit cover and the lower RF unit cover with solder.

Adjustment Preparations

1. Connect the main P.C. Board to RF unit by the extension cord.
2. Connect a distortion meter (with AC voltmeter) to the SPK terminals (TP5) on the portable handset.
3. Connect 3.9 V to the battery terminals.
4. After pressing [1], [9], [X] keys at the same time, turn Power SW on. After that, press [P] key (Test mode on standby).
5. Press [TALK] key (Test Mode on CH1 Talk).

Note: When selecting optional channel, press [2][3] keys after pressing [P] key of adjustment preparation 4 item (ex. CH23).
Next press [TALK] key (Test Mode on CH23 Talk)

If your unit have below symptom, adjust for each item as table of adjustment on pages 16 and 17.

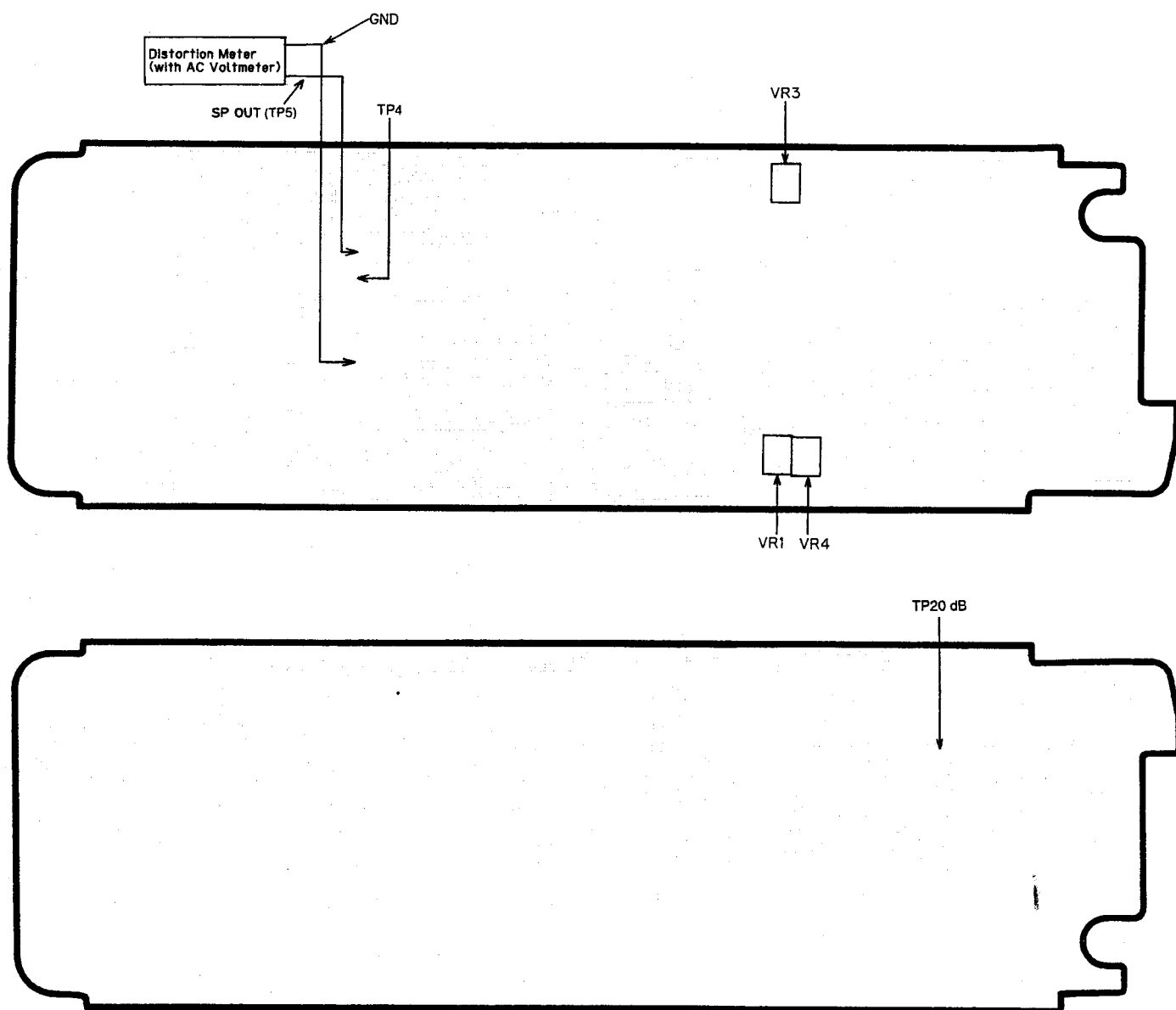
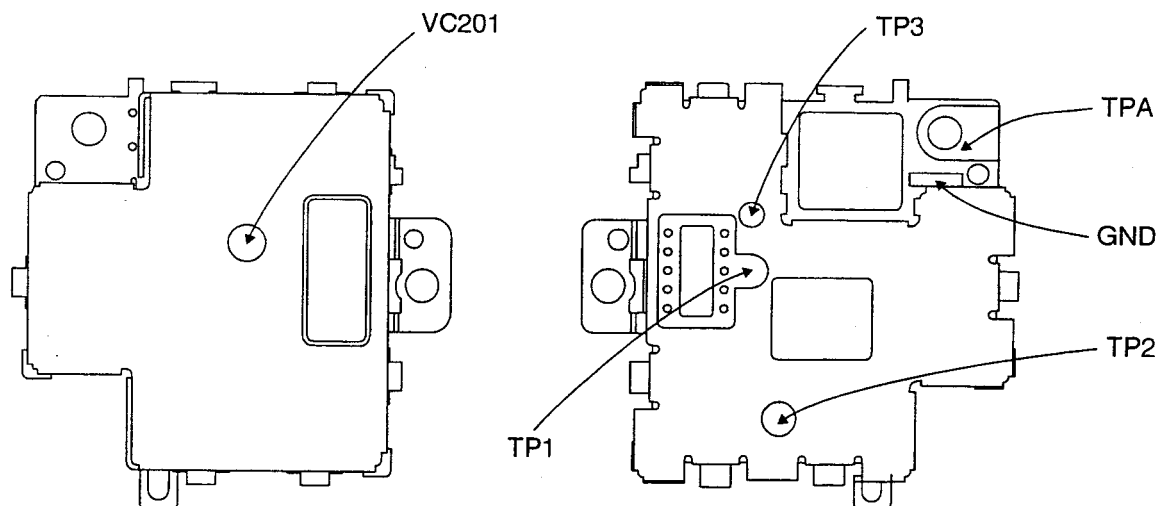
Symptom	Remedy
Dose not link between base unit and portable handset.	Adjust the adjustment items (A), (B), (C), (F) and (G).
Speaker level of portable handset is unstable.	Adjust the adjustment item (D).
Transmission sound for receiver is unstable.	Adjust the adjustment item (E).
The operating distance between base unit and portable handset is loss than normal.	Adjust the adjustment items (H).

Item	Adjustment Item	Procedure
(A)	RX VCO Voltage Check	Place the voltmeter probe at TP2. Confirm that TP2 's voltage is within 0.5 V~2.5 V.
(B)	TX VCO Voltage Check	Place the voltmeter probe at TP3. Confirm that TP3 's voltage is within 0.5 V~2.5 V.
(C)	20 dB Electric Field Adjustment	While reduced level of S.S.G. set S.S.G. level when distortion of telephone line sending signal is 30 %. Confirm the level is less than 5 dB μ Vemf. If so, adjust VR1 so that brightness is equivalent whichever TP20 dB High and Low.
(D)	Receiving Level Adjustment	Connect a signal generator (914.0125 MHz, 1 kHz modulation frequency, 3 kHz modulation, +60 dB μ Vemf output level) to the RF unit TPA. Adjust VR3 so that the speaker output TP5 is -18.0 dBm \pm 0.5 dB (85 mV \pm 1.7 mV).
(E)	Max Depth of Modulation Adjustment	Connect a modulation meter and signal generator [914.0125 MHz, 60 dB μ Vemf (1 mV, -53 dBm), unmodulation] in TPA and GND. Connect an AF oscillator [f=1 kHz, -19 dBm (87 mV) level] to the MIC terminals (TP4) and V _{ss} on the portable handset. Adjust VR4 to set the modulation to 4.4 \pm 0.2 kHz Devi.
(F)	Standard Frequency Adjustment	Adjust VC201 so that transmission frequency is set 959.0125 MHz \pm 500 Hz (CH1). Connect frequency counter between TPA and GND.
(G)	12.8 MHz Transmitter Confirmation	Connect the frequency counter between the TP1 and GND and confirm that the frequency is 12.8 MHz and that Vp-p is approximately 900 mV.
(H)	TX Power Confirmation	Connect the Spectrum analyzer the TPA and GND and confirm that the level is +7 dBm \pm 3 dB (10 mW~2.5 mW) Typ 5.0 mV.

Adjustment items (G) and (H): Refer to page 59.

Note: When selecting optional channel, press [2][3] keys after pressing Flash key of adjustment preparation 4 item (ex. CH23). Next press Talk key (Test mode on CH23 Talk).

RF Unit



INFORMATION

1. When you cannot remember password for Call restriction, and cannot release Call restriction mode –

PORTABLE HANDSET

- 1) Press Program button "→◇".
- 2) Press Cancel button "↵".
- 3) Press in order **#**, **9**, **0**, **0**, **0**.
(Call restriction mode is released. But, when **#** button is pressed, reception sound is not heard.)
- 4) Press Program button "→◇".
- 5) Press Cancel button "↵" twice.
- 6) Press Program button "→◇".
(Password for Call restriction is canceled.)

Note: Keep above procedure secret from customers.

2. ROM for ID Code of Base Unit or Portable Handset is broken –

- 1) Replace ROM for ID Code of Base Unit or Portable Handset.
- 2) Input ID Code/ Country Code/ Model Code following procedure.

ID CODE SETTING

HOW TO SET BASE UNIT AND PORTABLE HANDSET TO TEST MODE

PORTABLE HANDSET

- 1) While pressing the Dial button **[1]** and **[9]** and **[X]** at same time, turn the Power switch "ON".
- 2) Press Page button "**P**" once on the Portable Handset.
The Portable Handset becomes Test Standby mode.

BASE UNIT

- 3) While pressing SW1 (refer to page 15), connect power supply to AC adaptor. "Pi" alarm sounds.
- 4) Press Page button "**•••**" once on the Base Unit.
The Base Unit becomes Test Standby mode.

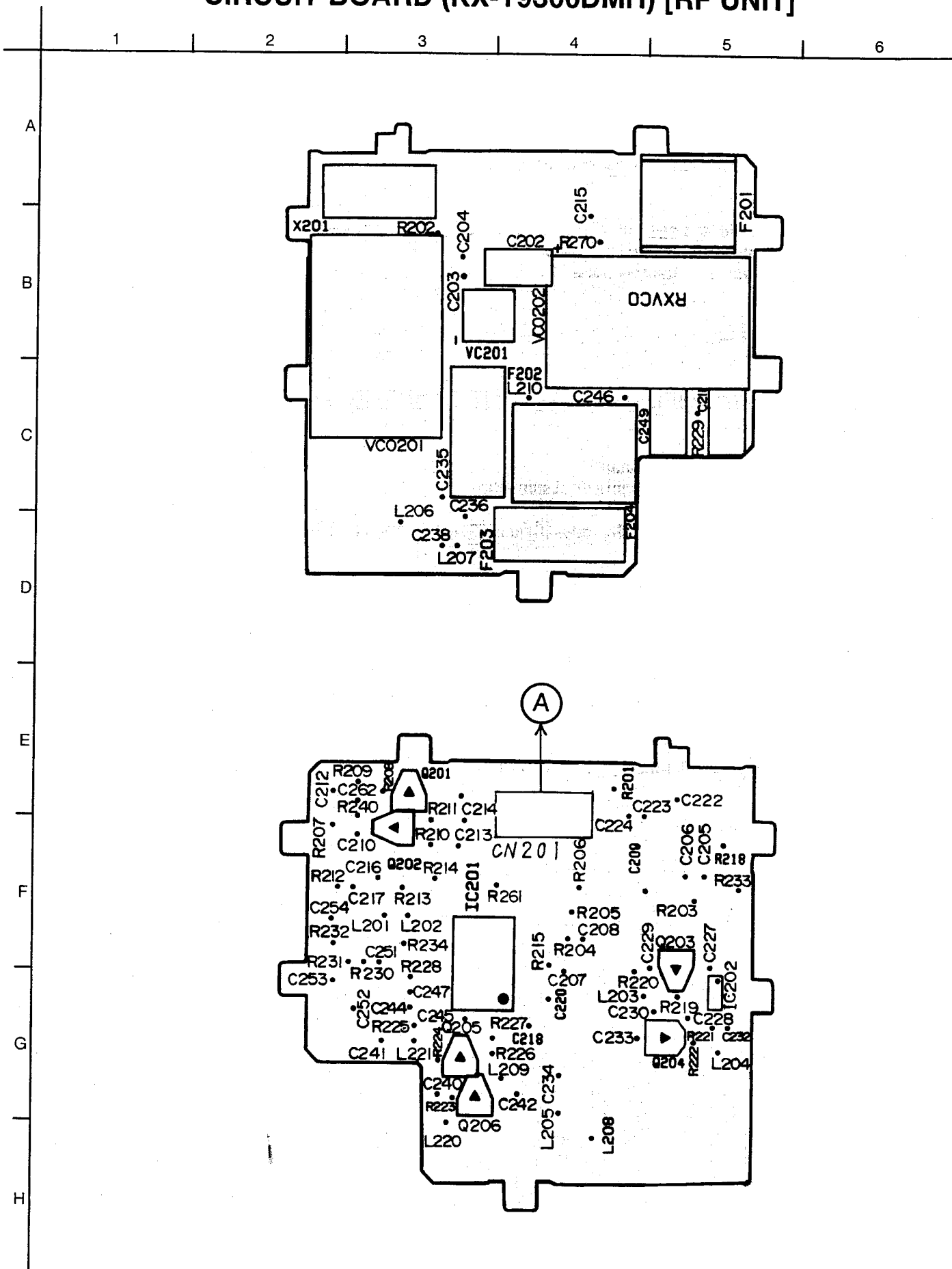
PORTABLE HANDSET

- 5) Press Program button "**→◇**".
- 6) Press Page button "**P**".
- 7) Enter ID code (7 digits).
Example: If you enter "000010" ID code, push **[0]**, **[0]**, **[0]**, **[0]**, **[0]**, **[1]**, **[0]** keys.
- 8) Press Page button "**P**".
- 9) Press **[1]** key.
- 10) Press Page button "**P**". "Pi" alarm sounds.
- 11) Press **[0]** and **[4]** keys (It is country code for Denmark).
- 12) Press Page button "**P**".
- 13) If your unit is model No. KX-T9300DM, press **[0]** and **[0]** and **[1]** keys (It is KX-T9300DM model code of Portable Handset).
- 14) Press Page button "**P**".
Portable Handset will make linkage to Base Unit.
"Pi..." alarm sounds.
- 15) Press Page button "**P**".
- 16) If your unit is model No. KX-T9300DM, press **[1]** and **[0]** and **[1]** keys (It is KX-T9300DM model code of Base Unit).
- 17) Press Program button "**→◇**".
- 18) Turn the Power switch to "OFF" to end the setting.

BASE UNIT

- 19) Press SW1 (refer to page 15) button to end the setting.

CIRCUIT BOARD (KX-T9300DMH) [RF UNIT]



7 | 8 | 9 | 10 | 11 | 12

Refer to page 20.



Service Manual

Supplement 3

WIRELESS PHONE

Telephone Equipment

KX-T9300AR/KX-T9300BL/KX-T9300DM

KX-T9300FL/KX-T9300HG/KX-T9300JT

KX-T9300NL/KX-T9300NW/KX-T9300PD

KX-T9300PR/KX-T9300S/KX-T9301SL

KX-T9300SV/KX-T9300TR/KX-T9310DM

KX-T9310PD/KX-T9310S/KX-T9310SV

KX-T9320AR/KX-T9321SL

(for Europe areas)

KX-T9350BX/KX-T9390LA

(for Asia, Middle Near East and Other areas)

Please use this manual with the original service manual mentioned on next page.



WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

This supplement has been issued for relevancy; portable handset model No. on name plate and portable handset model No. on original service manual.

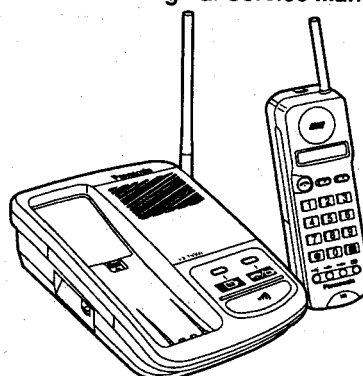
1. Although **KX-T9300XXR/KX-T9310XXR/KX-T9320XXR** are indicated as handset model No. on original Service Manual pointed by arrow in below Fig., **KX-A78XX/KX-A362SL** are indicated as handset model No. on name plate.
2. As two types indications are same unit, when repairing handset, refer to original Service Manual shown in the Table-1 on next page of this supplement.

Example for Denmark:

Name Plate of Handset

Panasonic
Model : KX-A78DM
Kyushu Matsushita Electric Co; Ltd.
Made in Japan P QGT12656ZA

Cover of original Service Manual



(KX-T9300DMH) (KX-T9300DMR) ←

Panasonic

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Portable Handset Model No. on Name Plate	Model No. on original S/M	Country	Order No. of original S/M	Sup. No.
KX-A78AR-1	KX-T9300AR	Austria	KM49604040A2	3
	KX-T9320AR	Austria	KM49609087C2	2
KX-A78BL	KX-T9300BL	Belgium	KM49606050C2	2
KX-A78DM	KX-T9300DM	Denmark	KM49602026C2	3
	KX-T9310DM	Denmark	KM49608080A2	3
KX-A78FL	KX-T9300FL	Finland	KM49603035A2	3
KX-A78HG	KX-T9300HG	Hungary	KM49611118A2	2
KX-A78NL	KX-T9300NL	Holland	KM49603039A2	3
KX-A78JT	KX-T9300JT	Italy	KM49603034A2	3
KX-A78NW	KX-T9300NW	Norway	KM49512018A2	3
KX-A78PD	KX-T9300PD	Poland	KM49609083A2	3
	KX-T9310PD	Poland	KM49610096A2	3
KX-A78PR	KX-T9300PR	Portugal	KM49610093A2	3
KX-A78S	KX-T9300S	Sweden	KM49511009C2	3
	KX-T9310S	Sweden	KM49606052C2	3
KX-A78SV	KX-T9300SV	Slovakia	KM49609082A2	3
	KX-T9310SV	Slovakia	KM49610094A2	3
KX-A78SL/KX-A362SL	KX-T9321SL	Switzerland	KM49612310S2	2
KX-A78G	KX-T9300TR	Turky	KM49612126A3	1
KX-A78BX	KX-T9350BX	Asia, Middle Near East and Other areas	KM49601024C3	2
KX-A78LA	KX-T9390LA		KM49604042C3	2

(Table-1)

■ PARTS COMPARISON TABLE

Note: Below tables indicate part No. for multi. portable handset (KX-A78XX/KX-A362SL) that are for purchase by sales route of Panasonic.

Model No.: KX-A78AR-1

Ref. No.	Part No.		Part Name & Description	Pcs/ Set	Remark	Implementation
	Original	Supplement				
ACCESSORIES						
A1	—	PQKC10003Z1	Belt Clip	1	Addition	From 1st Prod.
A2	—	PQQX11699Z	Instruction Book	1	Addition	From 1st Prod.
A3	—	PQKK10046Z1	Battery Cover	1	Addition	From 1st Prod.
PACKING MATERIALS						
P1	—	PQPD10212Z	Pad	1	Addition	From 1st Prod.
P2	—	PQPG10300Z	Inner Box	1	Addition	From 1st Prod.
P3	—	PQPK12245Z	Gift Box	1	Addition	From 1st Prod.
P4	—	XZB10X15A04	Protection Cover	1	Addition	From 1st Prod.

Model No.: KX-A78DM

Ref. No.	Part No.		Part Name & Description	Pcs/ Set	Remark	Implementation
	Original	Supplement				
ACCESSORIES						
A1	—	PQKC10003Z1	Belt Clip	1	Addition	From 1st Prod.
A2	—	PQQX11689Z	Instruction Book	1	Addition	From 1st Prod.
A3	—	PQKK10046Z1	Battery Cover	1	Addition	From 1st Prod.
PACKING MATERIALS						
P1	—	PQPD10212Z	Pad	1	Addition	From 1st Prod.
P2	—	PQPG10300Z	Inner Box	1	Addition	From 1st Prod.
P3	—	PQPK12230Z	Gift Box	1	Addition	From 1st Prod.
P4	—	XZB10X15A04	Protection Cover	1	Addition	From 1st Prod.

Model No.: KX-A78PD

Ref. No.	Part No.		Part Name & Description	Pcs/ Set	Remark	Implementation
	Original	Supplement				
ACCESSORIES						
A1	—	PQKC10003Z1	Belt Clip	1	Addition	From 1st Prod.
A2	—	PQQX11697Z	Instruction Book	1	Addition	From 1st Prod.
A3	—	PQKK10046Z1	Battery Cover	1	Addition	From 1st Prod.
PACKING MATERIALS						
P1	—	PQPD10212Z	Pad	1	Addition	From 1st Prod.
P2	—	PQPG10300Z	Inner Box	1	Addition	From 1st Prod.
P3	—	PQPK12243Z	Gift Box	1	Addition	From 1st Prod.
P4	—	XZB10X15A04	Protection Cover	1	Addition	From 1st Prod.

Model No.: KX-A78S

Ref. No.	Part No.		Part Name & Description	Pcs/ Set	Remark	Implementation
	Original	Supplement				
ACCESSORIES						
A1	—	PQKC10003Z1	Belt Clip	1	Addition	From 1st Prod.
A2	—	PQQX11688Z	Instruction Book	1	Addition	From 1st Prod.
A3	—	PQKK10046Z1	Battery Cover	1	Addition	From 1st Prod.
PACKING MATERIALS						
P1	—	PQPD10212Z	Pad	1	Addition	From 1st Prod.
P2	—	PQPG10300Z	Inner Box	1	Addition	From 1st Prod.
P3	—	PQPK12229Y	Gift Box	1	Addition	From 1st Prod.
P4	—	XZB10X15A04	Protection Cover	1	Addition	From 1st Prod.

Model No.: KX-A78SV

Ref. No.	Part No.		Part Name & Description	Pcs/ Set	Remark	Implementation
	Original	Supplement				
ACCESSORIES						
A1	—	PQKC10003Z1	Belt Clip	1	Addition	From 1st Prod.
A2	—	PQQX11696Z	Instruction Book	1	Addition	From 1st Prod.
A3	—	PQKK10046Z1	Battery Cover	1	Addition	From 1st Prod.
PACKING MATERIALS						
P1	—	PQPD10212Z	Pad	1	Addition	From 1st Prod.
P2	—	PQPG10300Z	Inner Box	1	Addition	From 1st Prod.
P3	—	PQPK12242Z	Gift Box	1	Addition	From 1st Prod.
P4	—	XZB10X15A04	Protection Cover	1	Addition	From 1st Prod.

Model No.: KX-A362SL

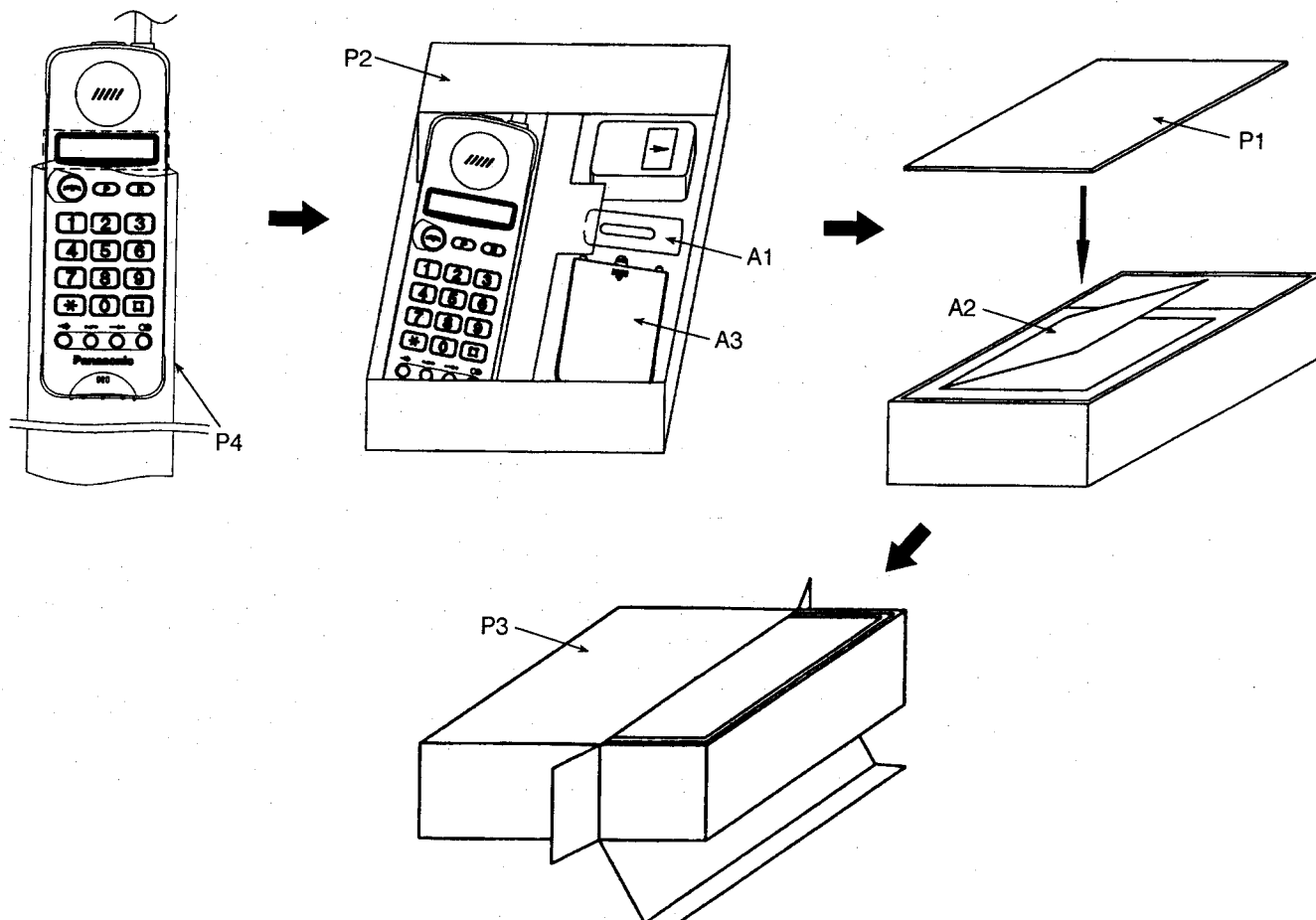
Ref. No.	Part No.		Part Name & Description	Pcs/ Set	Remark	Implementation
	Original	Supplement				
ACCESSORIES						
A1	—	PQKC10003Z1	Belt Clip	1	Addition	From 1st Prod.
A2	—	PQQX11698Z	Instruction Book	1	Addition	From 1st Prod.
A3	—	PQKK10046Z1	Battery Cover	1	Addition	From 1st Prod.
PACKING MATERIALS						
P1	—	PQPD10212Z	Pad	1	Addition	From 1st Prod.
P2	—	PQPG10300Z	Inner Box	1	Addition	From 1st Prod.
P3	—	PQPK12244Z	Gift Box	1	Addition	From 1st Prod.
P4	—	XZB10X15A04	Protection Cover	1	Addition	From 1st Prod.

Model No.: KX-A78BX

Ref. No.	Part No.		Part Name & Description	Pcs/ Set	Remark	Implementation
	Original	Supplement				
ACCESSORIES						
A1	—	PQKC10003Z2	Belt Clip	1	Addition	From 1st Prod.
A2	—	PQQW11485Z	Instruction Book	1	Addition	From 1st Prod.
A3	—	PQKK10046Z2	Battery Cover	1	Addition	From 1st Prod.
PACKING MATERIALS						
P1	—	PQPD10316Z	Pad	1	Addition	From 1st Prod.
P2	—	PQPG10352Z	Inner Box	1	Addition	From 1st Prod.
P3	—	PQPK12113Z	Gift Box	1	Addition	From 1st Prod.
P4	—	XZB10X15A04	Protection Cover	1	Addition	From 1st Prod.

Model No.: KX-A78LA

Ref. No.	Part No.		Part Name & Description	Pcs/ Set	Remark	Implementation
	Original	Supplement				
ACCESSORIES						
A1	—	PQKC10003Z2	Belt Clip	1	Addition	From 1st Prod.
A2	—	PQQX11687Z	Instruction Book	1	Addition	From 1st Prod.
A3	—	PQKK10046Z2	Battery Cover	1	Addition	From 1st Prod.
PACKING MATERIALS						
P1	—	PQPD10316Z	Pad	1	Addition	From 1st Prod.
P2	—	PQPG10352Z	Inner Box	1	Addition	From 1st Prod.
P3	—	PQPK12227Z	Gift Box	1	Addition	From 1st Prod.
P4	—	XZB10X25A02	Protection Cover	1	Addition	From 1st Prod.

■ ACCESSORIES AND PACKING MATERIALS


(Supplement)